Norwest Mortgage bets its future on making its legacy current. Servers & PCs, page 67

CA, IBM and Sybase are slated to introduce new databases this fall, as they continue to chase market leader Oracle. Page 16

The Newsweekly for Information Technology Leaders

News updates, features, forums: www.computerworld.com September 8, 1997 • Vol. 31 • No. 36 • 144 pages • \$3/Copy \$48/Year

Novell greases upgrade skids

 Prompts migration with tool giveaway

By Laura Di Dio

DON'T LOOK NOW, but users say Novell, Inc. has finally made a smart marketing move. The beleaguered networking vendor last week said it will give away an \$800 migration tool



Ad Life's Josh Turlet: "Deals like this shore up confidence'

users to migrate from NetWare 3.x to IntranetWare 4.x. This changes everything, and Ben Lamboy, vice president of network operating system en-

gineering at The Chase Manhattan Bank Corp. in New York "Dread is the first thing that comes to mind when I consider migrating 90% of my 25,000 Movett, page 12

INSIDE THIS ISSUE R/2 USERS WON'T BE IGNORED

HIGH-PAID CONSULTANTS UNITE! Skentics ew unionization effort in Silicon Valley, Page 2

Win some, lose some

FORGET SPAM: WATCH OUT FOR SLAM

Lethal sting of forgotten mail

> IS examines policies as costly suits pile up

By Burb Cole-Gomolski

CORPORATE AMERICA Slowly is waking up to the fact that something as seemingly mun dane as electronic mail can turn into a major nightmare

IS departments are on quard as workers and business partners catch on to the fact that E-mail records can produce a gold mine of damaging evi-

dence, be they prejudicial remarks or damning corporate admissions

E-mail, page 17

#4818GUIZ984P8805# AUG 98 881 4474 II M T PO BOX 984

ANN ARBOR MI 48186-8984

Cure for IS image: marketing

By Jaskumar Vijavan

BRACE TOURSELVES, IS MADapers. There's a Marketing to class in your future. As · information

shops everywhere struggle 40 communicate their services and earn their keep within large or ganizations, more of them are turning to professional market ing firms for help.

The goal is to "crush the image of IS as being an overpriced, low-value environment IS merketing, page 16 THF

RETENTION, RECRUITMENT, RAIDING

IT'S DARN NEAR impossible to get IS recruits to move to rural Arkansas - roo miles from a big city - and keep them there, so trucking company J. B. Hunt stopped trying. Instead, it switched to developing homegrown talent in its own back yard, which cut IS staff turnover from 25% to 2% per year.

That's the kind of creative approach you'll find in Computerworld's monthlong series of reports on 15 staffing issues, which kicks off this week with 15 cost-effective tips for keeping good people:

Managing, page 72

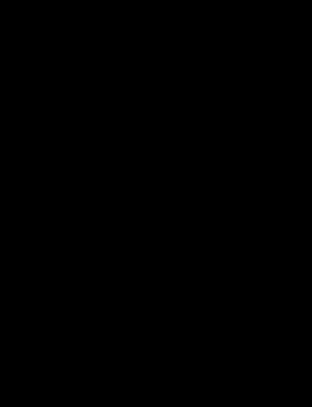


India, to Dallas and then to Montreal, Indianapolis and St. Louis. "I'm ready to travel anywhere," he said.

Corporate Stratogies, page 3



8 Out of 10 Fortune 1000 Companies know...



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- Intel Postum® Postum® Pro or Postum® II Processors High-Performance SCSL EIDE or Ultra ATA Hard Drives
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The Gateway Sola 9100 multimedia notebook received the Best Portable of COMDEX/Spring '97 award from BYTE magazine.

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eye on Value of Ownership: the winning combination of high benefits and low cost for the life cycle of your conquiter. In fact, Gateway received the 1997 Product of the Year IS

& Gelevey Sole * penaltic PCs feature hard Processes

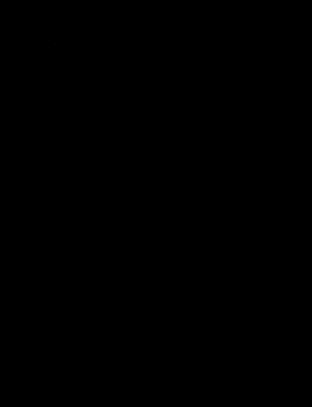
Manager's Choice Award for the PS-200XI, desktop PC in the February 1997 issue of Datamation.
Call our Gateway Major Accounts representative today and we'll thunder toward your business goals like a herd of hulls. We mean business.



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GSA Schedule #GS-35F-4565G

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R/2 users demand attention; SAP listens

By Randy Weston

IT SEEMS THE forgotten children of the SAP AG family are back in favor with their German

Users of SAP's R/a main frame software have successfully lobbled the vendor to pay more attention to them.

The R/a user community in the U.S. is a bit more organized now, and we are saying as a group to SAP. We have legitimate concerns. What are you going to do for us?" said Scott Weber, manager of technical services at Harnischfeger Corp., a mining and heavy equipment

The tactics are paying off SAP America in January formed a U.S. R/a support division to help users deal with upgrade, migration and support issues. It also beefed up migration tools. But SAP has been very clear that

it wants R/2 users to move to R/s as soon as possible. Support for R/a is scheduled to end in 2004, R/2's silver anniversary. These are our customers as well, and we will do everything to make their transition into the aret cembury as easy as possible," SAP Chairman Hasso Planner assured R/a users at

the recent SAP user group con-

That is a long way from last Weber said only a mainframeyear's user group conference based custom could bandle the where R/a users were treated like Cinderella as their stepmother whisked their R/1 siblines off to the ball. But unlike Cinderella, it wasn't a farry godmother who saved them. It was

their own weight. "Now that the R/s business is humming and not as resourceconstrained, SAP can go back and help R/a users. They have the hazury to do that now," said Jim Shepherd, an analyst at Advanced Manufacturing Research, Inc. in Boston. 'The users) are now a significantly reduced group of pretty large and important companies. SAP has sibility to make sure life is as painless as possible for

Shepherd estimated that of about 60 North American R/a users, one-fourth are at some stage of migrating to R/s. Another quarter of those users has made the decision or is evaluat-

ing half is waiting until year acco and other priority prob as are out of the way.

The list of R/a users includes such giants as The Dow Chemical Co., Du Pont Co. and East man Chemical Co. Many of those companies said they are just now getting their money's worth out of R/2.

"We didn't start our R/a proj ect until January 1992, and we didn't finish until September 1995," said lack Spurgeon, vice president and director of information technology at Eastman

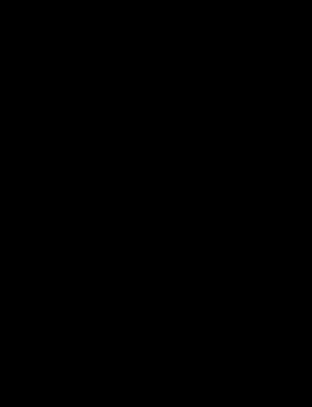
Chemical in Kingsport, Tenn. R/2 users also are waiting to move to R/3 when the cost is justified and chent/server sys terms can handle their data and user loads

data load of 600,000 different materials (10,000 of which are processed nightly) that are used to make electric mining shovels and large construction cranes But users applauded SAP for

recognizing that for some companies, a migration at this point isn't warranted. They cite the vendor's efforts to port R/s to a mainframe environment ICW. fuly of as an example.

When they first announced that, I got excited about it," Spurgeon said. "Here is a way for us to get to R/s but still have a similar environment we have today

But many of the R/a users said that won't be until after the turn of the century. Most said they are knee-deep in year 2000 conversions on other legacy systems, and an R/3 migration is low on their priority lists (see charts. II





In this issue

- People Soft scales software more efficrently as a three-tier application, adds Sew new functions
- Career edyssey takes mechanic to new role in IT project management at
- **Deniel and confusion delay comple** ion of year 2000 projects, with deadlines fast approaching.
- fors tout more robust electroniccommerce products at this week's ICE
- Database vendors to flood market with revisions, trying to grab the spot light from Oracles.
- 1804 hones Deep Blue's success will revive struggling RS/6000 product line.
- Firewalls may develop into drop-in security appliances, easing configuration and patching common gaps
- Tiveli aims enhancement at applications-level view of performance.
- OPIRION **Users Home** Michael Schrage for crack about legacies, but he holds his ground.
- CIOs require business acumen, but hiring for it instead of technical skills makes no sense, Leilani Allen charges. IT aligns with business a lot more
- closely than most people think, Bill Laber's writes.

TECHNICAL SECTIONS CORPORATE STRATEGIES

- ptor promises foreign talent a tour of U.S. to get them to take IS jobs in out-of-the-way places.
- United Airlines gethers scheduling and related data on one workstation to smooth travel

THE INTERNET

First Tennessee pours Java front end for online banking application.

- pourced intranet saves Virginia engineering company time and money.
- THE ENTERPRISE HETWORK Pion promises to make E-mail solid enough to build applications on.

- Users vow to pass up new R/3 architecture if it loses its core integration.
- 59 Users find Internet-based teleconfer-
- encing cuts travel, eases collaboration. SERVERS & PC:
- Norwest Mortgage gave its mainframes a face-lift, hoping to keep them up to date.
- Corporate buyers atick by their resellers, despite direct-sales pitch.

FEATURES

- Turnever rolls your plans; here are is cost-effective ways to cut it down.
- Trucking company retains staff by de-veloping local talent, rather than moving outsiders to rural site.
- OUYER'S OUIDE Web servers telt all the basics, but some of these eight stand out."

IN DEPTH

Technology changes what information is "public," so policies on public records should change, too, Right? Wrong?

IT CAREERS

Recruitors go to extremes in Philadelphia and southern New Jersey.

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R/2 users demand attention; SAP listens

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The list of R/2 users includes such giants as The Dow Chemi cal Co., Du Pont Co and East man Chemical Co. Many of those companies said they are just now getting their money's worth out of R/2.

What's keeping R/2 users on the mainframe

- # Year 2000 issues are a bigger priority
- Still getting return on
- 8 R/3 not scalable enough yet
- Functionality of R/2 is better than R/3

"We didn't start our R/2 proj ect until January 1992, and we didn't finish until September 1995," said Jack Spurgeon, vice president and director of information technology at Eastman Chemical in Kingsport, Tenn.

R/a users also are warting to move to R/s when the cost is justified and client/server systems can handle their data and

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But users applauded SAP for recognizing that for some companies, a migration at this point isn't warranted. They give the vendor's efforts to port R/3 to a mainframe environment ICW July 21 as an example.

When they first announced that, I got excited about it." Spurgeon said. "Here is a way for us to get to R/s but stall have a similar environment we have today."

But many of the R/2 users said that won't be until after the turn of the century. Most said they are knee-deep in year a opo conversions on other legacy systems, and an R/s migration is low on their priority lists (see

Enemy lines



t reminds me - I have to figure out how to install our CD-ROM and external hard drive."

Union targets IS contractors

By Isilia Kine

RIDING HIGH from the recent UPS strike, union organizers in Silicon Valley have turned their tion to a large and smprobable group of prospective members: contract programmers, software developers and other

temporary high-tech workers. But more than likely it will be a hard sell, said contractors and information systems managers across the country.

"I don't think anybody I know would go for a union. We're all too independent," said Mac Sterling, a Boston-based programmer and project manager who has worked as a contractor

*It certainly seems like the wrong way to go," said David Managed a contractor in Ball ston Spa, N.Y. "You can make a lot of money as an independent. But as soon as a union gets in there. I think the salaries would all get averaged out," he said.

As envisioned by organizers at the South Bay AFL-CIO Labor Council in San Jose, Calif., a high-tech union would operate along the lines of a 19th-century guild or trade association, whose dues-paying members would share information about rates and new projects.

"We're also exploring provid ing access to health care benefits and pension planning, and helping people get access to training and placement," said Chris Benner, a research associate at Working Partnerships USA in San Jose. The group formed two years ago to broad en the role of unions in Silicon

Benner said the union's focus on high-tech stems in part from the industry's increasing use of

temporary, contract and parttime workers, which was a cen tral issue in the United Parcel Service of America, Inc. strike. Ultimately, UPS agreed to convert thousands of part-time jobs at the company to full-time

employment growing faster in Silicon Valley than anywhere else. At the same time, real wages were declining, the study found

A recent Working Partnerships study found temporary

ho requested anonymity.

For example, in 1994 the average hourly wage for all technical occupations, which includes computer programmers, was \$12.69, more than \$2 less than it was in 1989. "Even in nor nal terms, that's a decline of 27.9% adjusted for inflation,"

Benner said But he also said that, for now, the vast majority of independ software professionals are having few, if any, problems finding work that pays well. In fact, 190,000 IS positions are unfilled at large and midsize companies because of a severe technical labor shortage, according to the Information Technology Association of America, a con-

sortium of high-tech vendors. "What we're really trying to do is publicize contingent employment as an issue and concern for society as a whole." Benner said. "Things are really booming in Silicon Valley now, but what happens in the next downturn

For their part, IS managers said they foresee a union having lit-tle impact on how they hire or how much they pay contract ogrammers and other IS professionals. "From an IS manager's perspective, there really should be very little impact at all, since most large companies al only with established contracting agencies. It's the agen-cies that would have to deal with the brunt of any union activity," said an IS manager at a large Midwestern insurance company

Another IS manager who requested anonymity said his company, a multibillion-dollar armaceutical manufacturer. also deals exclusively with con

tracting apencies 'We've worked to almost eliminate independent contractors and hire only contractors who are employees of agencies. within the companies employ ing them, I'd expect to be pretty well insulated," he said.



Users get peek at PeopleSoft 7

By Randy Weston

usess or PeopleSoft, Inc.'s business process automation software will finally get a close look at the revamped PeopleSoft 7 business application package at the user conference this week in Orlando, Fla.

Users also will get a sneak peek at new functionality coming with PeopleSoft 7.5 in March, including enhanced payroll features for multinational commanies. PeopleSoft 7 is mainly an overhaul of the software's architecture - from twotier to three-tier client/server with little added functionality.

Users have been waiting a year for PeopleSoft to move to a more scalable three-tier archi-

tecture, which will shift most of the processing work from the desktop to an application server. PeopleSoft has been promising performance, performance, performance. Now we'll see if

Buchanen, vice president of information systems at Snelling & Snelling, Inc., a Dallas-based staffing agency.

PeopleSoft's two-tier architecture has been "a performance hoe and a pain for us and a lot of other people," Buchanen said. "It takes four hours to run a report that should take 20 minutes. The three-tier system

ould take care of that," he Release 7.5 will add function ality to the financial and human

reources applications.
One significant enhancement is a deal with payroll giant Automatic Data Processing Inc. (ADP), in Roseland, N.J., to evelop country specific pay

roll management application mainly for the European mar The move is in line with PeopleSoff's push into glob markets, where it trails fore based competition SAP AG and

The Bean Co. such as ADP that have a stro

esence in Europe should help PeopleSoft penetrate that mar-ket, said Judy Hodges, an anahyst at International Data Corp. in Framingham, Mass. She said users and an the conference will be easer to

see what steps PeopleSoft is tak-ing to create more multilangual d multinational appli because most companies as quickly becoming internati lavers, C

Bay to ease network management, monitoring

> Tools will simplify VLAN setup, workflow By See Wallace ton, Mass, "Bay's offering one

management process to learn SAY NETWORKS, INC. plans to Optivity 8 will also let IS manupgrade its network manage

agers use workflow products to monitor and troubleshoot Bay ment packages to make it easier for Bay users to monitor, manrouters from a World Wide Web age and troubleshoot their enprise networks. browser, the sources said. It The new versions - Optivit supports Bay's new CooN Ether-Network Management System 8 net and CooT Token Ring workand Optivity Campus 6.a group switches. give users centralized manage

ment for several Bay networking ucts that were released ear-Ken Martig expressed enthusi-

asm about the Web interface. "I'll be able to more easily Optivity 8, which is Bay's subleshoot the system from enterreise network manag ment system, will include NETmy home," said Martig, syste architect, a module to help administrator at Seattle-based Zymogenetics, Inc., which tests information systems managers and manufactures insulin and set up Asynchronous Transfer Mode (ATM) networks, said other pharmaceuticals. "The X Windows interface I have to use now to access the system is far

sources who were briefed on suncement and who requested anonymity. from smooth and easy. NFDerchitect automates a lot Optivity Campus is Bay's unidrange network manage of the setup for virtual LANs (VLAN) on packets as well as ment system. Sources said VIANs based on ATM cells with Version 6.2 it gets support the tougher of the two tasks. switches Bay announced

"I'll be able to more easily troubleshort the system from my home. The

X Windows interface I have to use now ... is far from smooth and easy."

- Ken Martin. **Zymogenetics**

lier this year.

"By using common screens, em reduces complexity for IS managers," said John ncy, a principal at The Regintry. Inc., a consultancy in Newthe BayStack 350. autosensing toM/sooM bit/ sec. switch. Bay also announced a device that will let IS managers use Remote Monitoring (Rmon) and

earlier this year including

Smitch Node and

their networks. Series 2000 Fast Ethernet Optivity StackProbe works in full-duplex mode. Pricing and availability for the



FBI head backs mandatory key recovery

By Sharon Machlis

FSI DISSCTOR Louis |. Freeh last week called for a man system of encryption key recov ery within the U.S., a move vehemently opposed by the com-puter software industry. Freeh said such a syst

vital so law enforcement offi cials can have timely access to communications in criminal in-

say requiring key recovery will simply boost sales of encryption cts made overseas, wh

Privacy advocates also say the mment has no right to mandate that someone store s personal encryption coding/ decoding key with a third party.

The Clinton administration pre

viously had pledged it would seek key-recovery plans only for software sold overseas, not do-

After Prech's testimony, a sman for Vice President Al Gore said the White House doesn't support mandatory do-mestic controls on all encryp-

Freeh said the McCain-Kerrey bill now pending in the Senate red too restrictive by industry and privacy advocates - isn't strong enough to ensure that investigators will have time

ly access to encrypted messag Last year, encrypt couldn't be cracked thwarted FBI investigations in 12 cases and that number is expected to

rise. Freeb said. Widespread use of unbreak able encryption "clearly will un dermine law enforcement's abilto combat dannero criminals and terrorists," he

Enemy lines

go said it best: "We have met the enemy, and it is us." For more than a year now, we've chronicled the growing skills shortage in corporate IS. It has reached crisis proportions. An Information Technology Associion of America survey found that two thirds of the responets said the lack of skills is a barrier to

future growth. Our annual salary survey published last week showed that double-digit percentage pay increases were the norm in corpo ate IS this year. Our careers reporter Julia King this week examines the trend toward companies recruiting computer prof sionals anywhere they can find willing

bodies (see story, page 4). And our Man aging section begins a monthlong series on how to recruit and within people (see story, page 72) Not too lorig ago, the shoe was on the other foot. As recently 1993, companies were wringing their hands over what to do as 1993, compa with untrainable Cobol program mers who wouldn't make the

leap to C. Outsourcing deals and their acco were ravaging corporate IS staff. And the Lack of skills is a drumbeat of corporate down nded out its message: Everyone is ex

barrier to growth. king to a group of MIT techno-MBAs at that time, the best and the brightest of future IT leaders. I asked them how many were planning careers in orate 15. Of 40 students in the class, only three raised

their hands. The rest? Future consultants of America That's a big problem. I submit that one cause of the skills crisis today is the downsizing and cost-cutting of years ago. As corporations began to treat IS like a utility in the early '90s, col e computer science enrollments sank and the profession lost its luster. Now we're crawling to those people, beggin them to stay. And they're responding, not surprisingly. Where

FIFTH

Paul Gillin, Editor net: peul_gillin@cw.com



Union targets IS contractors

B) Polis Kinz

KIDING HIGH from the recent UPS strike unson organizers in Silicon Valley have turned their attention to a large and improb able group of prospective menu bers contract programmers. software developers and other

temporary high-tech workers But more than likely it will be a hard sell, said contractors and information systems managers across the country

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'It certainly seems like the wrong way to go " said David Maynard, a contractor in Ballston Spa. N.Y. "You can make a lot of money as an independent But as soon as a sanion gets in all get averaged out." he said

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A recent Working Partnerships study found temporary employment growing faster in Silicon Valley than anywhere else. At the same time, real wages were declining, the study

IS arofe

8 Male

g 36 years old 8 17 years of education

Holds 2 or 3 certifications

Home owner

Married with children Annual income

exceeds \$100,000 Base: 270 Independent consults

For example, in 1994 the average bourly wage for all technical occupations, which includes computer programmers, was \$12.60, more than \$2 less than it was in 1989. "Even in nominal terms, that's a decline of 27.0% advasted for inflation."

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LITTLE IMPACT

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Corrections

Secure of secount informs tion provided by a vendor, the Software section story "Software aids in design of training material" [CW, Aug 18] inaccurately identified the developer of Designer's Edge Pro 2.0. The developer was Allen Communications in Salt Lake City

Because of an editing error, a brief in the Aug 18 Data Warehousing section incorrectly mentioned Dun & Bradstreet Software. That company has changed its name to Geac Computer Corp. The brief should have referred to The Dun & Brad street Corp.'s data collection unit, known simply as Dun & Bradstreet

Webserver software: A comparison advanced manage..... tools or a good develop survey eight package: @COMPUTERWORLD

our CO-ROM and external hard drive."

Users get peek at PeopleSoft 7

By Randy Western

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PAYROLL PERK

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ality to the financial and human resources applications One supplicant enhancement is a deal with payroll grant Automatic Data Processing, Inc.

mainly for the European mar-The move is in line with

PUBLIC RECORDS

PeopleSoft's push into global markets, where it trails Europebased compensors SAP AG and The Baan Co

Partnerships with companies such as ADP that have a strong presence in Europe should help PeopleSoft penetrate that market, said Judy Hodges, an analyst at International Data Corp. in Frammeham, Mass

She said users and analysts at the conference will be eager to see what steps PropleSoft is taking to create more multilingual and multinational applications. because most companies are quickly becoming international

Bay to ease network management, monitoring

> Tools will simplify VLAN setup, workflow

By Bob Wallace ton, Mass "Bay's offering one

BAY NETWORKS/INC. plans to upgrade its network manage ment nackages to make it easier for Ray users to monitor manage and troubleshoot their enterprise networks The new versions - Ontivity

Network Management System 8 and Optivity Campus 6.2 give users centralized manage ment for several Bay networking worksets that more released earlier this year.

Optivity 8, which is Bay's enterprise network management system, will include NETarchitect, a module to belo information systems managers set up Asynchronous Transfer Mode (ATM) networks, said sources who were briefed on the approprient and who reouested anonymity

NETarchitect automates a lot of the setup for virtual LANs (VLAN) on packets as well as VLANs based on ATM cells the tougher of the two tasks.

"I'll be able to more easily troubleshoot the system from my home. The X Windows interface I have to use

now ... is far from smooth and easy."

- Ken Martig, Zymogenetics By using common screens,

the system reduces complexity for IS managers," said John Morency, a principal at The Registry, Inc., a consultancy in New-

management process to learn

Optivity 8 will also let IS man agers use workflow products to monitor and troubleshoot Bay routers from a World Wide Web beowser, the sources said. It supports Bay's new Cyo'N Ethernet and CooT Token Ring workgroup switches

Ken Martin expressed enthusi-

sum about the Web interface "I'll be able to more easily troubleshoot the system from my home," said Martig, systems administrator at Scattle-based Zymogenetics, Inc. which tests and manufactures insulin and other pharmaceuticals. "The X Windows interface I have to use now to access the system is far

Optivity Campus is Bay's midrange network manage ment aystem. Sources said with Version 6.2 it gets support for switches Bay announced earlier this year. including

Switch Node and the BayStack 350. autosensing LOM/100M bit/ sec switch Bay also announced a IS managets use Remote Monitoring (Rmon) and

Rmon a to monitor their networks. Series 2000 Fast Ethernet Optivity StackProbe works in full-duplex mode. Pricing and availability for the products weren't available.

SOUND The right to privacy is very OFFI much on people's minds. In today's networked world, is personal information too easy to get? Some believe technol-

ogy has changed the meaning of the word "public" so much that we must reexamine policy on access to personal records.

Others think the Internet is simply an easy target for fans of big government. A direct marketer and a privacy advocate debate the issue. In Depth, page 88 Robert Wientzen, Direct Marketing Association (at left); Lauren Weinstein, Privacy Forum

FBI head backs mandatory key recovery By Sharon MacNis

rai otarcros Louis J. Freeh last week called for a mandatory system of encryption key recor-

ery within the U.S., a move vehemently opposed by the cumputer software industry. Smeh and such a motern is vital so law enforcement officials can have timely access to

communications in crinunal investigations But software industry officials say requiring key recovery will simply boost sales of encryption products made overseas, where such restrictions don't apply.

povernment has no right to mandate that someone store a personal encryption coding/ decoding key with a third party.

WITE HOUSE

The Clinton administration pro viously had pledged it would seek key recovery plans only for software sold overseas, not domestically

After Freeb's testimony, a spokesman for Vice President Al Gore said the White House doesn't support mandatory domestic controls on all encrypbell now pending in the Senate - considered too restrictive by industry and privacy advocates - isn't strong enough to ensure

that investigators will have time ly access to encrypted messages. Last year, encryption that couldn't be cracked thwarted FBI investigations in 12 cases and that number is expected to

rise. Freeh said. Widestread use of imbreak able encryption "clearly will un dermine law enforcement's ability ... to combat dangerous criminals and terrorists," he

said. U

From wrenches to routers

· Career swap has Continental Airlines' Andy Hopohoom fixing networks instead of planes

By Bob Wallace

AFTER FIVE TRARS as an emoyee at a ski rental shop and a white-water rafting guide, Andy om decided it was time for the first of two career

After turning wrenches as an airline mechanic at Continental Airlines, his career path took an unusual turn. A penchant for technology led him to courses in PCs and networking technology and eventually to certification as an administrator of Novell. Inc.

Hogoboom is now a senior systerms analyst at the twice-bank rupt airline. He considers his biggest accomplishment to be the job he has done as project manager for a 1,000 person network that comprises 1.06s pet work devices, 461 new PCs, 97 printers, nine file servers, 64

ubs. four routers and 22.7 miles of cable. When that was completed, I felt like I was reclining on an island beach with my toes in the nd and sipping a pina colada," called. "Then a dark cloud covwas a huge swarm of users look-

ing for information on what they could do with the net-

To help them, he formed a 20-person, cross-departmental mittee that met every two weeks to discuss user needs and potential projects. Now the

roup meets once per month or Hogoboom is far from an nomaly, said an information technology consultant who specializes in staffine issues. "By the end of this year, 5% to 7% of all IT staff in midsize

to large companies will be from nootraditional IT back predicted David oote, principal at Cromwell Partners LLC in Stamford, Conn. "People changing careers to enter IT will become more common over the pest five

In the years before his switch to information systems. Hopoboom focused on becoming an ert in various aspects of airline operations. Despite his accomplishments, he said he was too specialized. "I needed to di

versify to make myself more etable." Hogoboom said. In 1004, the airline was struggling out of its second bankrupt cx and Hogoboom feared being a specialist in a small market if

picked up a bachelor's degree in aviation business, and knowledge and skills in PC operating systems and support. Before he moved into IS, Hogoboom paid to become a Certified NetWare Administrator (CNA) because Continental was a Novell shop "The CNAI training was a well timed step in a new career direc-

tion," he said. In February 1995, another of many reorganizations was un-der way at Continental, and Hogoboom joined Technical IS as a senior systems analyst. His boss, John Stelly, is glad be did. "Andy's one of our star performers," said Stelly, who is director of systems and training "He is extremely detailed oriented. He's one of the few people I can give general guidance to on a project and have him exceed expectations."

TECHNICAL SKILLS

Stelly agrees that people with technical backgrounds have skills that will belp them in IS. We've brought people in who are self-taught, and we've grown our own. Both have been successful" he said

Much of the training and experience Hogoboom amassed as an airline mechanic could be transferred to the multitude of projects in which IS is involved. be explained. "Basic troubleshooting still helps, and sizing

- I Result Acry Amprison
- 8 Parison jak: Formula Use recor
- S Youth habby: Recting old billion magnet jok: Worked for three co

up a problem by looking at it mechanics take a hard look at IS from a systems perspective is eers, networking in particular. "Everyone is building net Hogoboom recommends othworks, which makes it a vast opers in technical fields such as portunity."D

Five-week class turns neophytes into coders

▶ Year 2000 demand prompts recruitment

By Julia King

MATT LARKING Was working as a health instructor at a Michigan auto plant when he came across Electronic Data Systems Corp.'s advertisement for entry-level positions requiring absolutely no

That was six months ago. Today, Larkins eurns about \$10,000 per year analyzing and rewriting code on a year 2000 project team at an EDS client So do 46 other career chang-

ers, all technology neophytes

who were hired by EDS'a Ra leigh, N.C., office, which put them through an intensive fiveweek training course before dispatching them to fix customers year 2000 problems After a year, EDS said, the

new hires can expect to earn the same as an information systems professional with a four-year computer science degree and equal experience. 'It's a proven fact that nor

technology people can learn how to program and be effective at it. And right now, there's a lot nore work than there are people to do it," explained Dewey Cas nell, who manages the Raleigh

In response to its ads. EDS

has received about 500 resumes from people who want to land an entry-level programming job at the Plano, Texas-based services company EDS is also offering the program in Atlanta and Boca Raton, Fla. Classes will start in Mexico in January.

and there are plans to export the training to Ireland as well. Applicants must have at least a two-year college degree and have taken at least one collegelevel programming course. most likely as an elective. Lar-

kins, for example, has a degre in physical education but had taken an elective course in Pascal programming in college.

EDS screens candidates for what Cassell called "a genuine interest in programming We look for things like

whether they've taken a recent computer course or have their own Web page or volunteer at a school to belp set up comput ers," he said. Applicants must also pass a logic test

Once accepted, the trainees are hired and begin classes in structured programming coocepts, EDS's year 2000 method ology and tools, and ICL and Cobol programming.

After the five weeks, the new hires are paired with mentors

and placed on year 2000 project teams at client sites. So far, customers have been receptive to the oew techies. "There's a certain recognition

that a lot of what is involved in year 2000 work is somewhat rote and can be done by some one with little experience," Cassell said

"We've been very candid and up-front with customers, and there have been no objections."

Analysts agreed. "Cobol is not a difficult pro-

ramming language, especially as it involves year 2000, and because EDS has a year 2000 methodology in which you write the code a certain way and it comes out fine," said Susan Scrupski, an analyst at Technology and Business Integrator Inc. in Woodcliff Lakes, N.J. Cl

Trucker J. B. Hunt develops local IS talent to work in rural Arkensas, Peop 74

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sciting new features like a real-world, 3-D interface with virtual reality, Business Process Views" and advanced agent technology.

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Windows migration track a mixed bag

▶ Users take cautious route to Windows of and NT upgrades

By April Tacobs

TWO TEARS AFTER MICROSOFT Corp. released Windows 95, almost half of Windows users still run its venerable predecessor.

Windows Lx. Meanwhile, user interest in Windows 98 has been muted compared with the frenzy over Windows 95. And analysts said the migration to Windows NE. at least on the desktop, is slug-

The result a hodgepodge of old and new versions of the Windows operating system on corporate America's desktops

In fact, San Jose, Calif.-boss Dataquest last week said the Windows or installed base isn't

expected to exceed Windows 3.x until the end of this year. Dataquest also revised its Windows NT forecast, dropping it from 11 million desktops by

the end of this year to about 8 The slow more to Windows NT is the result of the hype surWindows NT 5.0, which isn't ted to ship until the second half of next year, said Dataquest analyst Chris LeTocq. Phil Easter, technology stra-

et at Grevound Lines. Inc. in Dallas said he will hold out on migrat-

ing his desktops to Windows 95 for as long as I can," Easter said 80% of his Service s con and users still run Vindows 3.1.

"Windows 3.1 works fine, and it mains our purses. I'm still oking for vendors who build 16-bit applications so I have

with legacy applications." Easter

Come businesses bave made a decisive move to Windows NT sed on factors such as hardments availability of applications and a belief that NT is

"Some of our leavey syste didn't function well with Win-

dows 95, and because our soft us in the direction of NT we felt it was the

way to go," said least several years because NT Frank Trotter, di rector of capital markets at Mercantile Canital Markets, a division of Mercanthe process of migrating all of tile Bank in St.

Several corpo from a variety of platforms, and rate technology we went with it because we wanted something cor and reliable," said Wyette cluding Trotter, Spotts, vice president of systems said they briefly looked at Winmanagement at Universal Undows 98, which derwriters in Overland Park, is due in the first quarter of

next year, but they don't plan to adopt it. They decided the new operating system will be immeture when it

first ships and won't provide any compelling new features. Ron Peeo, a technical director at Universal Underwriters Group, Inc., said his company

earlier this year.
Senior Editor Leura Di Dio ella contributed to this article using its Web site as a business omortunity, and Netcenter is

dows NT and will likely skin

over Windows 98 because of its

Many users interested in Win-

dow NT said they will have a mix

of Windows 95 and NT for at

is still more expensive to de-

ploy, and some end users don't

need such a heavy-duty operat-

Others are just now migrat-

ing to Windows 95. "We're in

our desktops to Windows 95

Spotts said the decision to

choose Windows 95 was based

mainly on the fact that driver

and application support for

Windows NT wasn't advanced

enough when the company was

drawing up its migration plans

NT TOO EXPENSIVE

ing system

Netcenter might be particul buly helpful for executives who want to keep track of the latest news and for small companies and information technology de-

Users must register for the

service on Netscape's Internet site, entering their name, street address and electronic-mail

address. They also will have

the option to create a profile

that will enable them to person-

alize the services they want to

access. Netscape and VeriSign. Inc. have collaborated on a digi-

Netscape launches free online service

Corp. last week launched a free. mbecs-only online service called Netcenter, aimed at busy professionals who want to locate business resources, including ent and software, in one Because Netscape's World

Wide Web site is so beavily visit ed, the company expects to be able to draw customers to the services and products offered by it and its partners, officials said. Netcepter is targeted at the

"A better mousetrap will not aw customers," said Netscape CEO lames Barksdale, "You've got to find ways to let them there. And we think because we have this marvelous hub opportunity in the middle of the Inter

net, we will be one of the significant hubs that will be created." But not everyone agreed. Allen Weiner, an analyst at Dataquest in San Jose, Calif., said Netscape doesn't under-

stand what business users want. He said Netcenter is "very uninuitive and awkward." "The company has had a very the day it launched, and that is to create open platform software products for the Internet." Weiner said. "This is a tremendous

departure from that mission statement and a more that, to me, seems at best haphazard." But Harry Fenik, an analyst at Zona Research, Inc. in Redwood City, Calif., said Netscape al-

merely an expansion of that.

partments that want to "get a leg up on the technology." Fenik said.

tal identification that will be used to validate a user's iden tity and encrypt persate infor

SSA tries online again – with safeguards

By Sharon Machlis

THE SOCIAL Security Administration plans to resume a modified version of its online benefits service, which was vanked off the World Wide Web in the spring after a flood of criticism

over privacy issue The new site, to be available later this year, will send only estimated benefits calculations over the Internet - not some one's past earnings data. Earnings information will be sent by postal mail, if requested.

he nut online only if someone asks to have his data provided through the Internet. An activa tion code will be sent to individuals by electronic mail before their data is posted on the

Those modifications are likely to satisfy most opponents of the initial system, who complained it was too easy to gain una rized access to someone else's sensitive financial records (CW,

The Center for Democracy

and Technology in Washington hailed the revisions for increasing privacy protections. The civil liberties group called the Social Security Administration's efforts "a blueprint that should guide other government agencies as they strive to use the Internet to provide individuals access to their personal infor-

But the safeguards throat some of the initial purposes of the site: satisfying demand for outck, one-click access to data without using postal mail. ()

top 30%" of Internet users and business professionals, not NEW SERVICES

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Tips for thrash-busting

FRANK HAYES

not happy, when you jump off the

is: You don't plan to upgrade to Word-

Whiz 9.0 within the next six

months. Saying it early, clearly

keeps user expectations under

control. Don't say you'll never

upgrade - you probably will

and specifically kills rumors and

about as much as an

neday. Don't imply you will upgrade

after six months. And don't make blanket tements. The more specific you are,

the more credible you'll be - and the

o o after all. Ask users what business functionality

less backpedaling you'll have to do if you enly discover you need Word Whiz

they need. Upgrades aren't supposed to

le merry so-round

oo soy, do you ever hate thrash! Mail from readers is still ouring in on the subject of my ent column on those constant software upgrades that

The high cost of thrush," CW, Aug. 18]. Most of you rust wanted to say you loss thrash about as much as an impacted wisdom tooth.

But a few wanted more. One reader asked for "a list of helpful tips that can be used to calm ened users who believe that the world has posit off and left them be-

hind." Fair enough. Just remember: Not all users are frightened. Some get angry if they don't have the shiniest toys on the block. Some get jealous of other people's status symbols. And some really need those new bells and whistles - and they need them now

So how can you keep them all calm, if

So ask users what they really need - not WebSlinger s.r or object-oriented audio. but specific capabilities they need to do their jobs better. You may discover real user needs you didn't know about and better ways of meeting them. And you may find out that, in some cases, users Tell users what's going on. Say it like it

really do need that upgrade. Nail down executive support f thrash-busting. Support from the big bosses is always important, but news more so than when managers are trying to climb over your head to acquire that coveted upgrade. Make it clear to your

be about new bells and whistles; they're

about improved business functionality.

executives that this is about money - a lot more money than they might expect. To do that, you'll also need to Make the business case. Most of you love thrash Remember, this usn't an antiupgrade crusade; it's about spi ing unneeded, counterproductive thrash. So calculate of the

impacted wisdom tooth. costs of an upgrade and have those numbers ready when ne to argue Sometimes users just don't realize the costs of upgrading operating systems and hardware, integrating applications and solving compatibility problems. But they'll have to pay that price, so be pre-

pared to give them that cold splash of asize stability. Some users hate upgrades as much as you do — the dis-ruption, the relearning, the new work-arounds. Use that distaste for change to your advantage. After all, if it ain't broke. why fix it?

But don't push a "we hate change" apreach too hard, or when you do want to ungrade your systems someday, you'll

Support exceptions. Do they really need it? Then they really need it. Don't hesitate to make a limited number of exceptions for users who can make a strong siness case for an upgrade. Just make sure they understand the true cost - and make sure it's billed back to them. And treat those exceptional users as a pilot project; they're perfect for spotting bugs, compatibility issues and retraining requirements. That was you'll know a lot more about the software if you need to roll it out to more use

Cut deals. Be realistic. Don't try to shove a no-upgrades policy down the throats of users whose cooperation you'll need in the months and years to come. Make your case, then make compro-

If a questionable upgrade is the price of building a better relationship with users, it may be well worth the cost. [2]

Heyes is Computerworld's staff columnist. His Internet address is frank." hayes@cu.com.

ent. It has 12.8G

Intel chip to speed up portables

Intel Corp. teday will anveil its Tillamenh processor, which is expetted to close the performance gay between portable PC and destings. At least a half-down laptop makes plan to this menth red out one portables using the chip, hint's new generation of 200-ce July 2014/12 Position processors with MMX technology. A 366-MHz processor in due by year's end.

Mobil in outsourcing pact

Price Waterhouse LLP has signed a letter of intent to provide business process outcourcing to Mobil Corp.'s Exploration & Producing U.S., Inc. unit under a multi-year context worth several hundred million dollars. Price Waterhouse will provide the Houston-based esstion unit with lease and property management, ac-

Virus infects Toshiba laptops

if you benefit a Teshiba laptop that shipped Aug. 7-23, there is a chance it included the AntiEXE virus, Teshiba America Information Systems said. The virus infacts a ser's master boot record and targets an executable file of exactly 200,256 bytes. Fewer than 1 in 100 computers were infected during software testing. Tookibs said. More information is posted at www. neshibs.com/pin/cod/support/pactorfur/.

Fix on way for Explorer bug

A security hale in Microsoft Corp.'s Internet Explorer 4.0 can let a hostile World Wide Web page overwrite any file on a client's hard drive, said Tim Macinta, chief

ology officer at Massachusetts start-up o and cons d consulting company Endware, which first publiced the bug. Microsoft said the hole will be patched in the final release of Explorer 4.0 and in the final Java Software Developer Kit 2.0. Microsoft said it discovered the problem "during a routine security audit," Me tails are available at usus microsoft.com/ie/security/

S H O. R T S

Citibank links customers to R/3 Citibank last week said it will deliver next month a n

interface to SAP AG's R/3 system for its Citibankin electronic banking system. The interface links a comp ny's R/3 financial system to a Citibank elect ng account. Citibenk said it is developing similar inter-uces for PeopleSoft, Inc. and Oracle Corp. applications.

Token Ring standard sought

jor networking vendors in the IEEE Soz.5 Token Si Working Group agreed to pursue a standard for do cated high-speed Token Ring that scales from 100 hit/sec. to at least 1G bit/sec. The standard will be deoped is time for multivendor demo technology at Networld/Interop 'pll in the spring. Ven-ders participating in the effort include 3Com Corp., Bay stworks, Inc., Cabletron Systems, Inc., Cloco Sys-ms, Inc., IBM, Xylan Corp. and Madge Networks, Inc.

IBM unwraps hub for ATM

IBM this week will announce a new model of its Nursy. Radio hub that provides the capacity users need to build wide-see Asynchronous Transfer Mode (ATM) not-works. The Nursys Radio supports of 1934 Milyacc, pipes and 14 fizzhl bilyacc, pipes, sald sources who

e briefed on the announcem bit/sec. of switching capacity and will ship in the fall.

Users of Ratios who choose to migrate to the Ratio will be able to use their interface cards in the new posters.

Jasmina to support interface

Computer Associates International, Inc. said its apcoming jasmine object database will include optional support for Microsoft's OLE DB data access interface, hich supports both relational data and multimadis in-mation such as test, video and images. That will let sers store OLE Dil-compliant objects in jusmine on findows NT or Unix servers. Islandia, N.Y-based CA didn't disclose pricing for the OLE DS capabilities

Web site for IT pres folds

Inquiry.com, a San Maise, Calif.-based Web site of signed to give information technology professions technolog information and provide vendors with suchnologia. The same site of the same size of lands, last weak said it was causing operatives an laying of its staff. The company, founded in 1995, fall to attack a conjected parties to faired future growth.

Software satisfaction study set

The Institute of Electrical and Electronics Engin The Institute of Electrical and Electronics supposers, loc. is feeding for participants and environment to entablish a software customer authorities on the Control of the

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compared to other approaches which are primarily manpower-driven supported by a little technology. SoftFactory/2000 is so fast and so so so fast and so now and the year 2000. That's because SoftFactory/2000 is the only Y2K solution which uses SmartFind, an intelligent problem-solving technology that filters your code to identify only true date fields and only the date occurrences that need to be fixed.

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As clock ticks, many still avoid year 2000 work

NEW YORK

WITH JUST nine quarters to go, many businesses are still dragging their feet in fixing year 2000 noffware problems, said do, experts said.

analysts and observers at a year 2000 conference here last week. A combination of denial and confu-

sion is delaying the inevitable work, only making it more expensive and harder to

"I'm concerned with the general ogress of institutions worldwide," said David lacino, senior manager of Bank-Boston Corp.'s year a ooo conversion project. Unless more information systems organizations dramatically step up

their efforts in the next few months, he said, "even those who are prepared will suffer" when year a ooo glitches shut down their customers or suppliers.

Sixty percent of companies are still as-sessing their year a ooo problems, with only 25% actually fixing applications and fewer than 10% testing the fixes, said Allen Deary, chief financial officer at Peri-

tus Software Services, Inc., a Billerica. Mass., vendor. Some spending for year acco tools md services already is taking place, but "the big dollars" won't be spent until next year, wrote Cruttenden Roth, Inc.

analyst Neil Cooper in a research report. Investment analysts and vendors at the conference, sponsored by Cruttenden Roth, an investment bank in Irvine, Calif., echoed the theme that corpora

tions are doing too little, too late. Many CEOs are "still in denial," said ohn Adams, national sales executive at BDM International, Inc., a McLean, Va.based systems integrator. "They keep looking for that cheap way to fix the problem," rather than tackle something such as BankBoston's four-year, \$40 million conversion project, he said



Cooper predicted that many compa nies will finish assessing their year a 000 problem this year, then realize how big it is and scramble for money and people to ake the fix in "panic stage" buying.

Even savry companies can underesti-mate the scope of the work. When Bank-Boston began its year 2000 project in 1995, it estimated it had 30 million lines of code to fix. After two years of work, lines, Iacino said. (See chart above.)

lacino said large banks and corpora-tions will solve their most critical year acco problems in time, but marginally profitable, midsize companies with small 15 staffs are likely to have some disasters. He said several small banks event will fail because of year 2000 problems

Companies also underestimate the complexity of testing for year 2000 bugs in cases where companies trade information, such as when a customer uses a BankBoston automated teller machine (ATM) card at another bank's ATM.

He said intercompany testing is a "massive problem" that could cost cempanies as much as their internal year



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E-commerce servers to grab spotlight at ICE show

▶ Users must be willing to pay big bucks for feature-packed products

By Mitch Wagner

VANDORS AT BEST Week's Internet Commerce Espo (ICE) in Los Angeles plan to intro catalog and electronic-sales software designed to offer industrial-strength robustness and features for users willing to pay the

befry price tags. For example, Open Market, Inc. will unweil LiveCommerce rver, which starts at \$45,000 To electronics supplier C&K Components, Inc., the expense "It is not a cheap product. But

for a lot of people, there are adtages for it. This is not like we're L. L. Bean selling a sweater on the Internet in a few sizes and a few colors," said Scott Hunt, MIS director at C&K

The Watertown, Mass., comony is using LiveCommerce to ublish its catalog of 30,000

onents on the World Wide Web, beginning with a pilot ect this week. Hunt said LiveCommerce will allow his mpany's customers to put ectronic parts together online to configure the products they

want to buy, It supports bears transaction loads and lets C&K Components give Web site visitoes customized views of products and prices based on busi-

ness contracts Open Market in Cambridge, Mass., expects to make Live-Commerce generally available in October

THE HIGH PHE Also at ICE, Connect, Inc. in Mountain View, Calif., plans to

introduce a new version of its OrderStream commerce server, which starts at \$100 000

as OrderStream and LiveCommerce are considerably more exsensive than other catalog offerings from companies such as Microsoft Corp. and Seattlebased leat Corp. For example, The Vision Factory Inc. in Scotts Valley, Calif., plans to introduce a new version of its Cat@log software for \$4,995. What users get for the higher-priced products is more powerful software, said Connect user Joe Mislinski, vice presi-

dent of technology marketing

at the Moore Document Solu-

tions until of Moore Corp. in To-

The high-end products such

OrderStream, for examp has a lava-based client application for designing catalogs aimed at nontechnical business managers. The software also has interfaces designed to ease connectivity to back-end electronic data interchange systems and SAP AG'a R/a enterprise re source planning package

The Connect and Open Market offerings join competitors that already have products on the market, including Actra siness Systems Mountain View, Calif., a joint venture of Netscape Communi cations Corp. and General Electric Information Systems, Inc.; BroadVision, Inc., also based in Mountain View; and Ficom Systems in Wests Mare C

Novell opens upgrade path

users to IntranetWare 4.8." he said. "At a list price of \$795 per server, it would be hard for me to cost-justify spending \$118,000' to buy [Simware'a RexxWare Migration Tool for

400 NetWare servers." Persuading so-far relucts users such as Lamboy to up-grade is critical to Provo, Utahad Normall for assertal man Only as% to so% of the 60 million NetWare users have moved om Version a.v. Novell posted a loss of \$121 million in its most recent quarter, and the com needs to stem the tide of defec tions to Windows NT.

Managers at nine Fortune 1.000 shops interviewed by Computerwerld said Novell's deon to license the RexxWa Migration Tool (RMT) could have an effect on

their purchasing decisi Phil Easter, technology strategist at Greybound Lines, Inc. in Dallas, said the free tool will Sacooo off the cost of migrating

40% of his Net-Ware 3.x servers to etWare, "Novell is telling the motivated to keep us as cum Easter said

"Including RMT in Intranet-Ware increases the product's value. They should do more of these deals" said look

og to get It

Turiel, MIS manager at Ad Life Marketing Corp. in Norwood,

By giving RMT away, Novell is potentially saving its NetWare 3.x users untold dollars in the cost of the soft-Also, RMT at mates about 80% of routine migra-

tion tasks such as files and directory database informa tion. RMT can be used to build test configurations offdiminating the risk of disrupting network opera

says, "Fence-sittle NetWere 3.x cussers" have hurt

as and loting se Manhattan said it expects to cut the time it takes to migrate users by one-third - from 18 months to about a year.

That's a very big deal. We have as network administrators who each earn an average of \$40 per hour. And RMT lets me take a proach to the upgrade and elimi-

nates a lot of erroe,"

Mike Jayjock, manager of risk assessment at Rohm and Hass Co., a Plexigles manufacturer in

Springhouse. Pa., said the free tool from Ottawa-based Simware could save his company \$210,000 in upgrading 120 NetWare servers. "It's definitely a stone on the

scale weighing in Novell's fa vor." Jayyock said. "It also tells me that although Novell still has a lot of restructuring to do, they're on the right track to

survive and thrive Leonard Strin bach, director of Information Technology at the Solomon R. Guggenbeim Museum in New York, ac-

knowledged that Novel's future was "a vital consider ation" when the museum did its network upgrade earlier this year

"Novell is going in the right direction, and deals like this one with Simware can only help the comeback effort It undicates that Novell is trying to set a long term standard direction for both its business and technology model," Steinbach said.

Michael Kearney, vice press dent of information systems at Phoenix Home Life Mutual Insurance Co. in Enfield, Conn., said "fence-sitting NetWare 3.x customers" have hurt the com-"Windows NT is far from in-

vincible." Kearney said. "I use it as an application server but won't risk my mission-critical applications by running them on Windows NT. The pact with Simware could very well be the first step on the long road back for Novell " C

Microsoft targets BackOffice at small-business customers

TO FURTHER broaden the appeal of Windows NT, Microsoft Corp. last week began a widespread beta test of its forthcom ing BackOffice Small Business Due out in the next three to four months, the package is armed at small businesses that

have as PCs or fewer and at large corporations that have small, remote offices, said Betsy Johnson, a group product man ager at Microsoft. The BackOffice Small Busi pess Server is a slimmed-down

version of BackOffice Serve auite, an integrated package of applications that contains features such as file, print, applica tion and fax services; SQL Server 6.5; Internet Information Server (IIS) 3.0; and Exchange Server 5.0, with Microsoft Outlook and

modern pooling capabilities. The version for small busi ness lacks the Systems Manag ment Server component. It was fine-tuned for ease of use at offices that don't have a full-time network administrator, Johnson

Four early beta users contacted by Computerworld said they have extensively used the hundied IIS to and the integrated fax services capabilities.

"The Small Business Server running on top of Windows NT 4.0 is very easy to use, and we've had no trouble implementing security and password protect tion," said Martin Criminale, retail manager at Ti Cycle Co., a bicycle manufacturer in Seattle. The biggest gain for our

business is the increased reli ability we get with Windows NI 4.0 [when] used in conjunction with the Small Business Server suite. We're also much more efficient and can answer customer cause information is literally just a keystroke away," be said. The only downside Criminals has seen has been perform degradation when workers use the Windows NT 4.0 machine as both a server and a worksta tion. Even with 64M bytes of RAM, throughput slows notice-ably when the machine is de-

oyed in a dual fashion. The Small Besiness Server running on top of Windows NT 4.0 is very

easy to use." - Martin Criminale. Ti Cycle

Sonia Huntzinger, an accou tant at Foster & Co. in Seattle. has used the Small Busi Server bets over the post three

The comb on of Each ierver 5.0 and Outlook has let the company create discussion groups and list servers, while the Microsoft Prory Server has provided fast, secure Internet ccess from users' deaktops. "Network operations are a lot faster, and we're far more productive." Huntzinger said Pricing for the BackOffice Small Business Server will be announced when it ships. (1)



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Is this a great time, or what?



Telco slam scam hits businesses

 To avoid being slammed, receptionists need to just say no

By Kim-S. Nach

AGGRESSIVE AND, IN SOME cases, underhanded telephone companies are adding corporate slamming to their already lucrative residential schemes.

The number of business complaints to the Federal Communications Commission regarding anvoluntary switching to a new long-distance provider has more than doubled each year

Small to midsize com which often don't have longterm contracts with a particular carnet, are an easy target. But even some big firms have been hit at remote offices or branch locations, where the telecommunications manager at headquarters might not notice. The American Bureau of Shipping (ABS), a shipping industry regulator in Houston. has been stung a few times that

way, according to a company manager Several of the ABS's 210 offices worldwide were picked off by ignacrupulous telecomm cations carriers when local of fice workers mistakenly agreed to switch phone services, the

manager said 'It's fraud - that simple. said Shelly Abramson, president of Fabricare Draperies, Inc., a company in Rockville, Md., that has been hit four times since April 1996.

This is not huge and borrible like on the consumer side. but it hurts," said Ron West, president of the Communications Managers Association in

Mercristenen N I Free individual phone lines at major companies have been slammed, and that can go unnoticed by the victim for months

and rack up hundreds or thou-**Number of slamming** processed by the FCC:



SLAM STOPPERS How to prevent unauthorized telecommunications switches

- 8 Employees, especially receptionists and administrative assistants, should refer callers
- from phone companies to the manager of telecommunications I Never say "yes" to a telecommunications marketer.
- no matter how benign the question may seem I Have your local phone carrier put a freeze on your
- account so no changes can be made without written authorization from a manager Report suspicious calls to the local Better Business Bureau or telecommunications agency

la legal limbo

es victimized by a

ns, Inc. and a bill o

on days and \$12 in po-

later, Abrameen sent

n, the agency has done fring further to help, Ab-

on said. And she so

she can't come up with any

"I feel like a carcass in the

ddle of the desert with vol

res trying to decide who pets what part of ma," Ab-ramson said. "Does MCI get my leg and AT&T get my right arm?" — Kim S. Nash

sands of dollars for the reque nications firm. Bally's Park Place, Inc., for example, saw several individual lines switched, said Dons Brew er the telecommunications

manager at the casmo in Atlantic City, N.I. In fact, some long-distance services specifically target business users, said a spokeswoman. for the Public Utility Commiscross up Assettin Tearner

Slammers often rely on un witting receptionists and corporate bureaucracy to pull off the scam. A marketer calls a business hne and asks ouestions designed to elicit a "ves" response, which can be pur posefully misconstrued as an approval to fiddle with the

phone service Some "authorizations" apparently are forged outright. MedSource, Inc. in West Nyack, N.Y. was hit that way in 2004

From what a MedSource executive can piece together, the carrier appeared to snatch Med-Source's phone number, the name of an office assistant at MedSource and her signature from an information card filled out at a trade show.

The slamming company crafted a fake authorization by reproducing the assistant's sig nature on a card otherwise filled in he a calcomon for the carrier Slamming is horrendous

enough," the MedSource executive said. "But I object to this fraud violenth The FCC doesn't have any

particular plan to deal with corporate slamming other than to advise companies to adapt its consumer antislam advice. Information is available at its World Wide Web site (www.fic pay/Bureaus/Common_Carner/ Reports/score_card_9; html). []

Fastest Web server will boost high-volume sites

By Matt Hamblen

SILICON GRAPHICS, INC. and last week announced they will rountly build the world's fastest Wish server over the next two

INTERNET SERVICE

The so-called Everest project could be good news for big businesses with high-volume World Wide Web sites that handle millions of consumer visits per day Silicon Granhics CEO Edward R McCracken predicted that seers will enjoy response times that are to times faster than to-

The server, which will have 64 or 128 micmprocessors would help the largest Internet service providers and Web so persites pinvide near real-time delivery of information and multimedia content for site users, company officials said.

Furthermore, large companies could renlace 100 or more server boxes with one or two of

the new machines, making their networks much simpler to manage. "It's quite important to AT&T." said Mike Rich, director of product management for

Web site services at AT&T Corp in Basking Ridge, N.J. AT&T's Easy World Wide Web service, with 6,000 bust ness customers, needs a faster. multithreading server to provide more efficient and cost-effective service to those customers, Rich

"I don't know of any site that needs that much horsenower right now, but clients of ours may need that horsepower in the future," said Adam Joffe, president of WorldSite Networks, Inc., a Beverly Hills, Calif.-based Internet service

re tactics for Ashting the provider. WorldSite hosts hun Hiring a lawyer would cost dreds of Web sites for the entermore than the \$651.69 the es title and bies er Small claims court is out beuse companies can't sue e another there.

High-end servers in use or planned for the Web

SGI/Netscape Everest collaboration Sun Microsystems Ultra Enterprise 10000 Hewlett-Packard

Joffe said having a large number of Web servers has become "a management pmblem," so the notion of consolidating This new approach is arm-

ably preferable to setting up server farms because there's a single nount of control." said Chris Willard, an analyst at International Data Corp. (IDC) in Mountain View Calif Marc Andreessen, executi vice president of Netscape's products division, said the collaboration with Silicon Graphics

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replace about 150 server boxes at its own Web site with one or two. It was only logical to "productive" that research effort he said

The first Web server product, still unnamed, will be available in about six months. Models with more processors will come out over the next two years, offi-

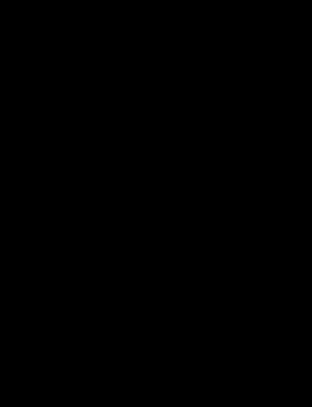
rials said The vendors, both based in Mountain View, Calif., didn't an-

nounce pricing. fean Bozman, an analyst at IDC, said the largest server could cost \$2 million. David Cooperstein, an analyst

at Forrester Research, Inc. in Cambridge, Mass., said he isn't sure the market segment of big Internet service providers and Web supersites will be large But be added, "There is a \$127 billion market for businesses on the Web in five years.

and they will want a Web that is

fast and always works and is ready for customers to do what they want." []



Telco slam scam hits businesses

▶ To avoid being slammed, receptionists need to just say no

By Kim S. Nash

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The number of business complaints to the Federal Communications Commission regarding involuntary switching to a new long-distance provider has more than doubled each year since 1904.

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Even individual phone lines at major companies have been slammed, and that can go unnoticed by the victim for months and rack up hundreds or thou-

Remier of stemming complishes from businesses processed by the PCC: 1994 1.068 1995 2.53 1996 1.53 1997 2.53 SLAM STOPPERS

How to prevent unsultiprized balecommunications with 8 Employees, especially receptionists and attributed by academic should refer callers

administrative assistants, should refer callers from phone companies to the manager of belecommunications.

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The FCC doesn't have any particular plan to deal with corporate shamming other than to advise companies to adapt its consumer amislam advice. Information is available at its World Wide Web Site (sweep (c. gov/Bureaut/Omenon_Carrier)

INTERNET SERVICE

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The vendors, both based in

Mountain View, Calif., didn't announce pricing. Jean Bozman, an analyst at IDC, said the largest server

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SQI/Netscape	Everest collaboration
1014	SP
Sun Microeysterns	: Ultra Exterprise 1001

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Vendors ready to harvest database crop

► CA, IBM and Sybase gear up to go after Oracle

By Craig Stedman

A BOMPER CROP of databases is due to move out of beta testing and into production in the next 45 days.

Computer Associates International, Inc., IBM and Sybase. Inc. all plan to ship long-promised products in a quest to grabback some of the spotlight from the OracleS software that marher bisfort Oracle Corn. re-

leased in June.

IBM and Sybase this month are scheduled to come through with upgrades to their, respective relational databases that should let users run a wider mix of applications on a single server without causing performance

nightmares.

Islandia, N.Y-based CA will follow by the middle of next month with its Jaumine object database, a new product for multimedia and internet appli-

CONTINUES FROM COVER I

cations that was originally due late last year.

The collective goal: to keep Oracle from sashaying away with more and more users.

EVBASE STABILIZES
For example, Sybase has righted
itself financially after big losses
last year, said Rob Swift, manager of database administration in

the Healthcare Services division at pharmsceutical giant Smith-Kline Beecham Corp. in Philadelphia.

But Sybase still needs to regrow its database revenue and market share, he said.

On that front, "they obviously have an uphill battle," Swift said. "Oracle has a large lead, to

say the least."
Swiff's division at Smith Kline
Beecham uses Sybase's mainstay SQL Server database and its
Sybase IQ decision-support software. He said the unit within a

	Challenge
Computer - Associates	Setting to users outside its acquired customer base
1914	Proving its detabase worthiness to users who don't have IBM hardware
Informiz	Ending losses and questions about its revenue-reporting practices
Microsoft	Selling against Oracle and other vendors at the enterprise level
Sybess	Regaining technical credibility and lump-starting sales again

couple of months expects to upgrade to the new release of SQL. Server, which is being renamed Adaptive Server Enterprise 11.5. Oracle controls about 400 of the database business and likely will increase that further thanks to Sybase's Impering image problems and the financial debacle that befell No. a vendor Informix Software, Inc. this year according to International Data Corp. (IDC) in Framingham, Mass.

Oracle is "using Oescle8 as a hammer to try to just smash their way through the market-place," said Carl Olofson, an IDC analyses.

"The thing that's so impor-

tant for these other vendors is to remind everyone that they're still in the game, "Olofson said. Sybase and IBM still formally announce their new databases nest week at the IT Forum '97 conference in New York.

Adaptive Server Enterprise, which Emeryville, Calif-based Sybase lisst detailed in April, adds features such as parallel querying and loading and support for creating analople virtual servers to keep different applications from fighting over system

IBM's DBa Universal Database, which has been in beta testing since last last year, mere et the multiprocessor and praullel versions of DBa into a single code base and enables users to get at databases from World Wide Web browsers.

Wide Web browsers. The parallel processing support should help DB2 Universal Database handle large applications that mix transaction processing and querying, said betatester David Yeger. a vice possident in the distributed architecture group at Mertill Lynch & Co. in Princeton, N.I. 2

IS turns to marketing

MARKETING TECHNOLOGY

the natural from an imping & important to

Contemer neweletters: Articles facus on how IS supports
corporate strategies and new technology implementations.

Develop publicity materials: includes posters, "how to" videos, progress reports and operating instructions.

Assertions with luminess until leaders for IT staff.

Serveye: To II

that does not meet commitments, keep deadlines or even understand where the corporation is headed in the market," said Paul 'Ouellette, CEO of Ouellette & Associates Consulting, Inc. in Bedford, N.H.

Such efforts could become vital for 15 departments, especially in corporations where user departments are free to shop around for their technology requirements, said Naomi Karten, president of Karten Associates, a marketing consultancy in Randolth, Mass.

"The fact that IS departments have to compete with others is driving a lot of this," Karten

"You really are in a situation today where you have to sell your services. Users can just as easily go down the street to buy their services as they can from you internally," agreed David Krauthamer, MIS manager at Parker Hannilin Cop, in Robnert Park, Calif.

U.S. firms last year outsourced an estimated \$17.5 biltion in IS contracts to systems integrators and service providers, according to International Data Corp. in Pramingham,

Marketing services provided by outside firms aren't always cheap. Pull-fledged communications projects for large corpora-

tions, involving long-term marketing strategies, customer satisfaction surveys and mariet research, could easily run up to \$100,000, according to observers. Even retainely small projects, such as marketing seminars for information technology staff, could cost more than

staff, could cost more than \$15,000. In most cases, the cost usually is taken out of internal 15 budgets.

MARKETINO PLAN
The strategy typically involves
marketing IT services internally
evangelizing new technologies,
explaining corporate objectives
to IS staff, preparing users for
product changes and setting up
a communications channel to
measure artification with IS.

For example, last year when Nissan Motor Corp. in Gardenia, Calif, was in the midst of a wrenching overhaud of its enterprise measuring system — and rolling out Windows 95 to 3,000 deakapps nationwide at the same time — the company retained the services of Jack B. Loewy Marketing Consultations.

Inc. in Louisville, Ky.

Working with Nissan's Information Technology Management group, Lowy helped the dompany devise a communication strategy that included cre-

tions strategy that included creating logos for the project, printing brochures with schedules and details of the move, and producing promotional video clips that were broadcast via the

network.

Often, the payback from such
efforts is hard to measure in dollar savings, conceded David R.
Espinoza, client relations manager at Nissan.

"But you know it is a success when you start getting less calls from users saking you for support or telling you that they didn't know [that a planned didn't know [that a planned happen," Espinous said.

Also working with Lorey is Buc Coox/fibe. Shield of Illinois, which is in the milet of a master energe with Blue Cons of Teas. It is trying to develop a common communication strategy for the combined operation. The staff from Fibe Cross/blue Shield's Chicago-based information Technology Group is working, with Lorey; and IS staffers from the Teas outfit to educate users on the technology implications of the merger.

the primary whiches for communicating information to its its stiff and other units have been to mentioners: "ITC News' for its IT stiff, and "Milestoner" for wider consumption. The information Technology Group at his has conducted customerautisfaction surveys and even coordinated Tunde with for eater the company's contraction of the with IS staff to give an overall with IS staff to give an overall opiciture of the company's goals and the rich of Is in defining it.

"There is definitely more to this whole thing than just the soft feeling that comes from having satisfied customers' said Pat Griffin, a customer service and technology officer at the Information Technology Group at Blue Cross/Blue Sheid.

"But we are still measuring what exactly the payback of all this is to the IT organization," Griffin said Cl

As ald concest

The canage of letters communicating the rule of departments to other to within an arganization is now.

have recording to events our as technology fairs and germ of averagene constant to spread information shout it activities.

by a growing number of operations to cost their effitions a vacor formal struct with help from authito agcite refers increases.

these bind of fides usually lists more than above white-being tenterating of day whose what is noted a continuous resoluting affered Paul Qualitims, CSO Qualitate & Associates.

IBM's high-end RS/6000 gets power surge

ISM's as/6000 line is riding the road back to recovery on the shoulders of its

highest end server Key to the resurgence will be upo ing power boosts and clustering addi-

tions to the RS/6000 SP, IBM's parallel processing Unix machine better known for its number-crunching chess exploits And with growing interest from busi-

ness users, the SP is helping to boost the fortunes of the struggling RS/6000 division as a whole

IBM this month will begin to offer the latest PowerPC 604E processors on the SP, promising users more than 50% in rmance gains over the previous PowerPC 604 chip - with no price in-

The proc essor upgrade was expected because IBM has phased the chips into the rest of the RS/6000 server and workstation line during the past year in a bid to bring performance up to the level of other Unix competitors. [CW, Nov. 25.

But IBM spiced the announcement by revealing new clustering software for the SP that will support up to 16 nodes, with plans to double that to 32 by next year (see chart below)

"Customers like the idea of compu without limits," said Howard Richmond, an analyst at Gartner Group, Inc. in Stamford, Conn. "The SP's main strength is its scalability."

it will boost the power of the 1/6000 SP with the following:

In fact, IBM officials said they plan to trickle down some of the clustering capsbility, code-named Phoenix, into the rest of the RS/6000 server line to cash in on interest in the SP

The SP can train dozens of processor nodes on a computing problem simultaneousby.

Although the SP can support up to 522 of those podes, until now users could pool only up to eight of those nodes into a high-availability cluster

The latest boost is just what many of the 2,000 business and scientific sites that run the SP expect from the system. "We bought the SP for the purpose of owing," said Mike Ouinn, Unix team

manager at Intermountain Health Care in Salt Lake City. "We have looked at other SMP servers, but we felt that we had more flexibility to expand with the SP. The health system houses a growing attent dafabase on its SP and continues to add processors in pairs as needed,

Quinn said. Other popular busine for the SP include server consoli data warehousing and transaction processing. The growth in SP sales - which jumped 30% last quarter — comes after 1BM's Chief Financial Officer Lawrence Ricciardi recently called the RS/6000

division's performance in the rest of its servers and workstations a disappoint-

"It looks like the SP is one of the st ger parts of the RS/6000 line," said

Chris Willard, an analyst at Interna Data Corp. (IDC) in Framingham, Mass. In fact, IDC estimates that the SP, which made up 19% of the RS/5000 dicount for 32% this year. ()

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WE IMPROVED T WE IMPROVED T OF THE COMPUT

THEN WE IMPRO COMPANY BEHI THE COMPUTER.

On July 10, Campaq introduced a new line of desktop computers and in daings as, introduced a radically new way of doing business. Because with our new Deskpra 2000 and 4000 models, we are moving to a Build-To-Order model. BTO means customers will be able to raceive Campaq innovation, Campaq quality, and Campaq tell-oblity at prices you never expected from Campag.

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ond customization. We have created a new model that incorporates the manufacturing efficiencies of the direct model with the volue-added services and expertise of aur 100,000+ reseller sales and support representatives.

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Users pour Java into intranets, extranets opens, and persona can make a labeler commence and on matter Act a general in other commence and or matters. Act a general in other commence and on matters. Act a general in other commence and on matters. Act a general in other commence and on matters. Act a general in other commence and on matters. Act a general in other commence and on matters. Act a general in other commence and on matters.

The creator of the hip and hyped pro-gramming language, Sun Microsystems, Inc., recently trotted out several enter-

to build key applications.

One institution that uses lava extensively is the Ontario College Application Service. The service helps as public Canadian colleges — with more than

through an extranet. It also belos officials, faculty, staff and students communicate and share information over intra-

nets and extranets. For instance, one Java application lets college members conduct asynchronous

extranet application lets multiple colleges log admission test results. Using another language, code would

have to be changed to correspond to the various operating systems of the colleges.
"With Java, you just write it the same way, once, You don't care what the target is," said Guy Morazain, executive director at the Ontario College Application

Service. Currently, dynamic request handling is exactly what Java does best in a corpo-rate setting, said John Rymer, an analyst at Giga Information Group in Cambridge, Mass, "You use Java as a way to get to very diverse back-end informa-tion," he said. "Java is good for assem-bling data and functionality on the fly."

NOT PRIME TIME

What Java isn't good for now is big opera tional applications, Rymer said. "You wouldn't use Java [now] to build an ac-counting system," he said. "It's too slow, and it's not clear there's any benefit. Java code wouldn't be able to handle large

But Rymer said he thinks the situation will improve over time. "I'm not one who thinks Java's going to go away." he said.

"I just think it's been overhyped." At CSX Corp. subsidiary CSX Trans-portation, Inc., executives use a Java boardroom application to review company performance, and sales and market-ing employees monitor and manage ac-

counts and do pricing analyses. company also is testing financial and payroll applications. Because the company uses ne computers in certain sectors, other lan-

guages aren't an option for writing the sort of lightweight applications needed for those limited-memory machines, according to John Andrews, president of CSX Technology, Inc., CSX's technology arm, in Jacksonville, Fla. Developer productivity is another big

advantage Java brings, Andrews said. The National Center for Toxicological Research (NCTR), an arm of the Food and Drug Administration, uses Java for simple tasks, such as looking up a person's supervisor and finding electronic-mail addresses, and for more researchspecific applications that let scientists

collect and navigate through data.
"We have to support a very wide range of platforms, and Java's one of the few options that we have available to us," said Martin Jackson, a senior systems engi-neer at ROW Sciences, Inc., a contractor

that does work for the NCTR. But not every company is ready for Java. A major financial institution in the Boston area is considering Java to build applets that have intelligence to let clients view information about their securi ties. Information needs to be accessed and organized from back-end databases. Performance issues aren't the main

worry. Instead, the company is more con-cerned about printing out reports, and those services currently aren't available in Java applications. CI



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Out-of-the-box firewalls on horizon

By Sharen Machlis

THE PIREWALL of the future will consist of bundled hardware and software, default generic security policies and deployment as easy as "installation wizards" and in Windows or

used in Windows 95.

That's according to Make Zbouray, an analyst at Gartner Group, Inc. in Stamford, Conn. Zbouray predicted that by 2002, "firewall appliances" will cost

they could be sold through catalogs.

He said that could solve a major problem behind many successful hacker a
stracks misconfigured firewalls.

There already have been tentative

ances from companies such as Seattle Software Labs — recently renamed WatchGuard Technologies, Inc. — and Technologic, Inc. in Atlanta. Their products are simed at small and

Their products are simed at small and midsize companies that don't have the technical resources and expertise to install and manage high-end firewall software, which can cost \$20,000 per site. Debistics [Disseign Allistone June 1997]

Pediatric Physician Alliance, Inc. in Interceptor furwall from Technologic to protect sensitive medical data from intruders. The company, which provides nonmedical management services to physician practices, plans to install a virtual private network to exchange encryped medical moonth with customed with customed and medical moonth with customed with the customed with cus

QUICK AND EAS

"I wanted something that would be very easy to set up," said Mike Gentry, director of information systems. The hardware/software package includes default security policies to simplify setup. Modifying the package for specific company

needs "looks pretty easy," he said.
Gentry said the Interceptor software was up and running in half a day, substantially quicker than his experience with a high-end firewall. The lone glitch involved a larger-than-usual hard drive that the software didn't recognize, but

that was solved with a vendor patch.

Gentry said the new generation of firewalls is user friendly enough and there is no need for the instillation wizards that

wass g user meany enough and mere is no need for the installation wizards that Zbourny expects to see in the future. Gentry said a Windows NT administrator shouldn't need such wizards. "They

nor snounter need no hard wazaros. They need to be able to go in and learn the skills to administer the firewall," he said.
For now, the early "firewall appliances" have a relatively small share of the overall market — perhaps 800 units deployed to date w. thousands annually

sold by conventional firewall vendors.

During a teleconference last week,
Zbouray also predicted the firewall marhet soon will include software specifically
designed for intrunet applications.

designed for intruner applications.

Those products won't be designed to provide the highest possible level of security, such as the Federal Reserve System major need, but rather a reasonable level of affordable privacy protection for data

within an organization.
Gentry said firewall technology will be embedded within switch technology, but he cautioned against doing the same within routers, for security reasons.
"Using routers is one of the worst ways to connect networks together," he said. O





application integration.
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Boeing is currently carrying out one of the largest business process redesign projects in the world that will involve more than 45,000 users, 70 sites across the globe, four off-the-shelf software applications and one object request broker - Oubba.

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Users want apps with a view

By Patrick Dryden STSTEMS MANAGERS CON al-

ready extract performance data from routers, servers, databases Now, they're looking to take their analysis to the next level obtaining a single view of how applications are running.

And wendors are trying to deliver by integrating diverse tools and focusing them on applica-

oli Systems, Inc. this month hopes to release such an cation-centric interface for users of its TME 10.



happens to the electronic-ma system, without regard for the derlying platforms and connections," said Alex Berlin, a ystems manager at Chrysler Corp. in Auburn Hills, Mich. To get there, Chrysler consolidates alerts from all its systems through TME to and is starting to gather status information

about applications from log The next step is "the abstract view of all problems across the enterprise from a business perspective," either by adding Tivoli's new interface or integrating



Unicenter TNG from Computer Associates International. Inc., and OpenView from Hewlett-Packard Co. already offer these building business-process views. "We want to put one icon on a numbert person's desktop

other vendor options. Beylin Specifically, Tivoli will offer the Global Enterprise Manager and the Application Policy Manager as a layer on top of the tools that make up the TME to net-



"We want to tap in to a obal repository to focu n the alerts and error saces meaning each business group."

work management framework.
Users define the relationships between network, system and application pieces, then build models and policies for managing complex processes.

Several users of Unicenter TNG said they already take advantage of the relationships and busi-

ness process view built in to that "We're trying to track usability from the end-user perspective, not just whether the systems and network are

available," said Donny Linnard. assistant vice president of field support at Alistate Insurance Co. in Northbrook, Ill. For example, Unicenter TNG watches one new application running at the workstation, across the network and on multiple AS/400 and RS 6000 servers. For the first time, operators can detect connection timeouts

to each business group," said Bill Oris, an IS vice president at J. P. Morgan. DST Technologies. Inc. this

month will integrate its custom workflow software with Unicenter TNG to better monitor mutual fund trading applications "We can tell when a worksta tion goes off-line now, but we want to know who else is lossed on and available to take over the failed station's scheduled work," said Robert Tucker, chief

technology officer at DST in Kansas City, Mo. Chevron Information Tech sology Co. integrates HP's OpenView and other tools to manage its network, Windows NT servers and SAP R/s applica ions run by 10,000 user

Unicenter TNG is replacing When as ooo users migrate most of the 150 tools in use at to a common desktop con I. P. Morean & Co. in New York tion this year, user functi so IS can make sure the fixedmust be monitored. "We'll have to quickly judge the impact of each outside on the stervice for example, are running properly on any system and for users promised to each customer group," said Roberto Montero. "We want to tap in to a global enior enterprise systems man agement analyst at Chevron IT in San Ramon, Calif. D ository to focus on the alert and error messages meanineful



and nuntime errors in one place

Lineard said, "so we can under-

stand if we're meeting the end-

come services applic

user expectation

"We're trying to track warbility from the andshother the protoms and estwork are avail ALL STATE WELL AMOU

Start-up offers Java-based substitute for mainframe-based business apps

Ry Bark Cole-Gomobki .

A START-UP to taking aim at anlication stalwarts such as SAP AG and Oracle Corp. as well as workflow vendors with Javabased software for designing modular business process appli-

Dallas-based Fuego Technology Corp., which was launched at the recent lava Interpet Rusiness Expo in New York, is a spin-off of 14-year-old InterSoft Argentina S.A., a Buenos Airesbased software house that specializes in Unix databases and

Fuego's software is aimed at punies looking to replace or ance monolithic back-office cations with modular, Javabased systems. With the Puego software, a user can store business processes - such as the steps involved in verifying product inventories - on a server and reuse the business process-

es across multiple applications. Fuego plans a third-quarter rollout of a Java-based process nagement engine and a Java

significantly reduce the time it takes to deploy back-office systems and let users dump monolithic applications that require costly customization.

application development envi-

ment. This approach could

Theoretically, you could get rid of your SAP system with something like this," said Yvon **FUTURE WORKFLOW**

Feature Forte Conductor Process engine Yes Yes

Stand-alone client software for managing work

Lemieur, workflow technologist at Cigna Healthcare in Bloom-But the Fuego approach more

likely will appeal to compa that have unique business pro cesses that aren't included in pockaged applications, said Connie Moore, vice president at Gizz Information Group in Cambridge, Mass. "For most sites, packaged applications still have a lot of ap-

neal," she said Fuego officials pointed out that the company's software was designed to coexist with legacy systems. The process engine is expected to work with existing applications and Java-based ap-

plication components from Puego and third parties. The suite also will include a client application with a dragand-drop interface for creating business processes. That lets workers most familiar with the business process build it without the intervention of a programmer, an idea that appeals to

on Cohen, chief inform officer at Gerald Metals, Inc. in Stamford, Coop.

Cohen is using Conductor on Forte Software, Inc. in Oakland, Calif. - which is expected to go head-to-head with the Pargo offering — to build an enterprisewide application that will support trading, ac-counting and treasury functions for its metals and financial ser-

OOTHER WORKFLOW

Cohen explained that instead of having 50 big processes, his apration will have soo discrete tasks that are strung together as 50 workflows. That approach lets him reuse the workflows in different applications, he said. "If you are looking for the packaged solution, this isn't the approach for you," Cohen explained. But the process based approach will let him deliver his application quickly and nove most of the custom coding, he said.

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Computer Industry

Users: Apple's Power grab effectively kills Mac clones

By Kim Girard

USERS MAY SOON be without any Apple other than the real thing - with leading Macintosh in recent weeks for not paying a clone maker Power Computing out of the picture and the other fair share of licensing costs. clone, makers barred from fu-

deals openly criticized speculation, Apple Computer, Inc.

clone makers for last week bought not paying their Texas-based Power fair share. Computing Corp. in stock. The move not only eliminates the most vocal clone

maker, but also nots Apple technology designed to run Micro-soft Corp.'s Windows NT on the ity, no matter how well Apple performs, and the entire Macin-PowerPC chin. tosh 'ecosystem' will continue to Power Comp licensed to sell Macintoshes in

1993 and has been making Macintosh look-alike machines since 1994, will continue to sell Mac OS-compatible computers until Dec. 31. Apple officials said

The move wasn't unexpected. considering Apple officials have openly criticized clone makers

"Apple is giving a several-hundred-dollar subsidy with each the Mac OS," said Steve Jobs, co-

founder and board member of Apple. in a letter to Apple week, "Our hoard is convinced that if Apple continues this practice, the compomy will never return to profitabil-

decline, eventually killing both Apple and the clone manufac-The goal is to eliminate Macintosh cloning, said Rob Enderle, an analyst at Giga Infoc on Group in Cambridge.

sense to do this." he said. "To do cloning right, you need to be hardware independent. can't try to create your own com-

petitors. It just doesn't work." But users, who protested with online petitions and postings, said Apple needs the competition that Power Computing and fellow clone makers Uman Computer Corp. and Motorola, Inc. provide by making faster, cheaper machines

"They felt they needed us out to survive," said Bob Groppo. vice president and general man ager at Power Computing's PC division. Power Computs which began to give up the fight last month by delaying going public and halting construction on a new building, is now shifting gears. It will roll out a high end portable Wintel PC, called amoved at about \$1,000

PowerTrip, that is aggressively Gene States, software config uration manager at Eastman Ko dak Co. in Dallas, said he is surprised Power Computing gave up. "They had a really good thing going," be said. "Power [Computing] was one of the first, and they seemed to be head and shoulders above the rest in terms of quality and getting things to market. [Apple] was never fast with new, hot technology. They just rehashed

"I never considered the clone

builders a threat [to Apple]. said Frederick C. Moody, nation al news production manager at The Well Street Journal, which uses several hundred Macintoshes. But Moody said the fo ture of Macintosh software is more important in the long term than whether clones are built. "Clones are almost a side

istare," he said []

What's next for Power?

Middleware becomes popular add-in

By Tim Oudlette

HARDWARE MAKERS and an plication vendors are becoming more interested in middleware

as a way to make their servers

trying to stitch together differ-ent platforms and applications. By bundling middleware with their products, vendors can help smooth communications

among different products. For example, BEA System Inc.'s Tusedo transaction moni tor was bundled with IBM's RS/6000 PowerSolution servers last month, even though IBM sells two other tran

monitors, and with Secuent Computer Corp.'s NumaQ serv-Other vendors, such as Hew-

lett-Packard Co., already bundle Tuxedo with their servers. BEYOND THE BACK END On the application front, Pro-

pleSoft, Inc. this summer began embedding Tuxedo in its suite of applications, Lotus Development Corp. has built several Domino tools that integrate IBM's MOSeries messaging middleware

Such deals give server and apcation makers another arrow in their quiver, but their prolifer-

ation also is helping push mid-dieware out from behind the murky back-end world it has a certain number of platform (see chart). long inhabited.

typically built their own version

But even with the new deal the process isn't as simple as buying a server or an applica-tion and getting books to differ-"One of the traditional prob-lems with middleware has been it didn't have the applications said Jim Johnson, chairman BEA still must help out at uses The Standish Group Interna sites to make sure the right con tional, Inc., a consultancy in Dennis, Mass. "People buy apctions are made between an

plications and servers because These deals are not like tra they do the job. And with mid ional OEMs because middle-are is still complicated, and dleware built in, the job can get have to go in and make the fi Server vendors and user sites nal sell," said Ed Scott, vice esident of worldwide opera of middleware, which could be tions at Sunnyvale, Calif-box



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RISE

of the Self-Service Employee

BY JUDITH HODGES
Research Manager
Applications and Information Accelerational Data Corp. (IDC)



HE TRADITIONAL human resources (HR) function is fast disappearing. Faced with the same increasing pressures as other business functions – doing more with less and focusing only on high valueadded activities — HR is undergoing pro-

found changes.

Enter employee self-service (ESS).

ESS applications are becoming more popular because of the benefits they provide. By freeing-IRP personnel from having to perform many administrative tasks, the software allows them to focus on more strategic goals such as HR consulting, directing company policy, improving employee relations, compliance/planning issues and organizational development. They also help eliminate (or at least reduce) the paper burden

Employees also like having personal control over their own HR information. Higher employee satisfaction levels have become critical for companies, since competitive advantage is increasingly related to their ability to attract and retain the most qualified and productive

employees.

The popularity of ESS has been accelerated by the convergence of online technologies, including interactive voice response (IVR),

kiosks, workflow, the Web and client/server architectures. Through these online systems. employees have instant access to their personal information in HR files.

Some of these communication channels have supported ESS for years, notably IVR and touchscreen applications. Telephone response, or IVR

appearing that can easily extend HR information out to individual employees and their respective managers and up to executives. These new HR software products simplify the task of accessing and organizing personnel information - no more digging into personnel files to seek historical data. People can create electronic



systems are the easiest to deploy. They grant all employees ready access, but are restricted to numeric-only input. Touchscreen kiosks can be used 24 hours a day by employees without computer access, such as those on a manufacturing shop floor. Kiosks have limitations - lack of convenience and shorter interactions - but they allow employees to update data as well as make inquiries into their employer's retirement and

medical plans The introduction of more robust, client/server HR applications is also making it easier for companies to move to a self-service forms, review them and change them, before routing them to the HR and payroll systems.

New role for HR More and more, companies are looking to their HR departments to provide on-demand information about applicants, employees and

benefits. Documents such as employee change forms for benefits erirollment, the processing of which once consumed vast amounts of HR staff time, can now be handled by the employees. Through online benefits enrollment, new employees can enroll and current employees who experience a change in family status (e.g.,

model. Distributed desktop solutions are marriage or birth) can amend their benefits selection without having to contact the HR department. Some online applications even include built-in calculations that tell employees how much an optional benefit will cost them. This way, there are no surprise deductions at month's end as with the previous delivery methods, and

the HR group has to respond to fewer questions. New online applications give employees access to and permit changes to their 401K retirement plans and their company's stock purchase plan. An employee who wants to purchase stock is given specific online instructions, making it easy to set up a brokerage account.

Document imaging and workflow are also key parts of the solution to HR's paper overload.

PeopleSoft 7 leverages the Web

THE INTERNET CAPABILI-TIES offered by the upcoming release of PeopleSoft 7 are democratizing the Web by making it easy for everyone — from technical experts to occasional users — to realize the benefits

of corporate information. Based on a new Java Web client, the Internet component of PeopleSoft 7 enhances mission-critical applications by streamlining information access and slashing the time spent on administrative tasks. "Release 7 truly allows us to exploit the Internet." says Row Henson, vice president, HRMS product strategy at PeopleSoft. "It creares information access for the non-departmental users who were traditionally left out." In this new Internet-pow-

ered environment, a variety of users will benefit. HR departments will no longer have to maintain records, because records management will be pushed down to the true source of data: employees and line managers. Empowered by Internet access, these employees will be able to manage and administer their own records. HR will then be able to focus on accessing valuable external information for multiple tasks. Hiring managers will be able to search the Web for the best job candidates and determine how much they should earn in various regions of the country. Or they may research demographics to locate the best site for a

new plant. The opportunities are endless. "Internet-enabling is not just about taking a system and

just about taking a system and putting it out on the Internet,". Henson notes. "It's about changing the way an expanded community of people now are able to use that data."

According to Dean Alms, manager of product strategy for electronic commerce at PeopleSoft, "Empowering occasional users means supporting the platform they're already using. For example, if marketing uses Macs and engineering uses Unix or NT, we can now reach them using the Java-based Web Client and Universal Applications.

"These universal applications provide a highly intuitive interaccess them once a week, once a month or even once a year. And because these applications

a month or even once a year. And because these applications are written in People Tools, customers can leverage the business rules, workflow capability and security features from our core applications. Web solutions without links to workflow

are doomed."
Whether occasional or nor,
the internal users, suppliers and
customers linked via Internet
technology form a powerful
community of shared interests
that PeopleSoft refers to as the
"interprise." Bolstered by an
arsenal of technologies from
electronic data interchange
(EDI) and electronic funds
trainfer (EET) to weddlow and

Web browsers, the PeopleSoft 7 release is a formidable instrument of productivity.



Imaging technology, is frequently used to scan in resumes, which are then placed in an electronic filing cabined. Applying workflow technology to other paper-based tasks such as travel expense forms greatly simplifies life in HR; the forms can simply be electronically routed to the appropriate departments, so there is no need to making multiple copies of expense forms and receipts.

Online recruitment

Businesses are increasing their use of the literare is a recruitment fool. Companies need the ability to recruit quickly and to have soarching functionability of these are find the best candidates. Companies that implement their own remainment site on the Web can post positions online, where they are made public to millions of jets sectors worldwise, 2st hours a day. A qualified jet seeder an where our notes the posting and respond immediately. Another advantage is that the content of the posting on the changed

easily—and a settin as necessary and as 4, the new research of the control of the

Online recruitment is just one part of the self-

COMPUTERWORLD

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Illustrations by Mark 5 Fisher

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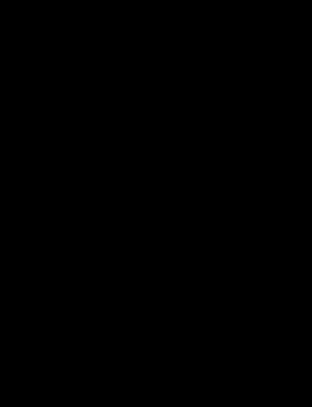
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every and increasingly familiar over interview for the read majority
corporate vertex. All the employee hap to do in patiet, then click.

Another beself of the betweek is that it can serve as a report tracking test. Employees can easily developed betweekees and processes to get the belorestics or elevative thay used, in addition employees using new bedweeking and store belong photos very interest on deceased. Thus, the interest absolute the world to term

Compleyees can also use their semated psychotte, the calles planted

service HR systems that are allowing companies to obtain more value from their HR organization. More and more, corporations are rolling out HR self-delivery systems that allow them to maximize the potential of their workforce, while minimizing their HR costs.

Judith Hodges is Research Manager, Applications and Information Access (AIA) at International Data Corp., a market research from based in Frannuplant, Mass. In this role, she has responsibility for crosnulastry applications, including HR, financials, distribution, self-so and marketing and customer scretic/support. She can be contacted at induced with the contacted at



TO THE RESERVE OF THE PARTY.

Imaging tochnology is frequently used to scan in resumes, which are then placed in an electronic filling cabinet. Applying workflow technology to other paper-based tasks such as travel expense forms greatly simplifies life in IR: the forms can simply be electronically routed to the appropriate departments, so there is no need for making multiple copies of expense forms and receipts.

. . .

Businesses are increasing their use of the Internet as a recurrent tool. Companies the ability to recent quickly and to have search-ing functionally if they are to find the vene crididates. Companies that implement their own crudidates. Companies that implement their own excutiment also not be Web can post positions online, where they are made public to millions of job neclews workfulke, 28 hours and applic to millions of job neclews workfulke, 28 hours and applic to millions and respond immediately, and how advantable, where they are made public to millions and respond immediately, and respond immediately, and their advantable, where they are the content of the posting can't be changed only and a soft of their arrectance.

There are alternatives for posting job and, so, A company can set up in som whe bage, and/or link its Web page to one or more of the 500 Web recutiment its easy has the Online-Cherer Center. Memorise Board or Cherer Pah. New products to the Cherer Center of the Cherer Center to the Cherer Center of the Cherer Center to the Cherer Cherer Cherer have transformed the time-consuming and condy process of the Cherer Consuming and control process. He departments that pool center calling a considiate into an efficient calling process. He departments that pool center calling a considiate into an efficient calling process. He departments that pool process the consuming and proposes and make the consuming and proposes and movible the total number of responses and movible the total number of responses and movible the total number of responses and movible the total number of sections.



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Stantoniana by Maris S. Cabar

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PeopleSoft's workflow-enabled applications route he right information to the right people at the right ine in the right form. That can not only improve the roductivity of your organization, but can also solilate business process redess, reduce papers, reduce papers,

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ESS

Gives Workers Independence,

"We're going to have a baby. What should we do?" For an expectant parent wondering how an impending birth will impact their employee benefits, the answer to that question is critical information. But for a human resources professional, that answer is much the same for every anxious employee who calls or comes into the HR department. Every day, HR employees field questions like this repeatedly, as well as ones about health benefits, payrolf and other subjects

"That's not a great use of their time," says Darrell Moore, director of compensation and benefits at Fujitsu America Inc., in San Jose. That's why Moore and many other

of concern to their fellow employees.

HR professionals are looking to intranet-based employee self-service (ESS) systems. By providing employees with easy access to certain information, these systems allow HR professionals to offload some of their routine tasks, so they can in

use their time more effectively. ESS offers companies other benefits. It reduces administrative costs on paper, postage and data entry,

while increasing employee satisfaction because workers can get answers to questions quicker.

Most early ESS systems were based either on touchscreen kiosks tied to corporate LANs, or integrated voice response (IVR) technology that

BY COLLEEN FRYE



Frees up file Staff

enabled employees to use brack-two telephone to access HR systems. But the predictation of corporate intranets has accelerated acceptance (SSE. SES systems from software specialist like Employee Communication Services in National Like Employee Communication Services in National Like Employee Communication Services in National Services and Employee Communication Services in Services (SSE) and the PROCESSION of the PROCESSIO

However, of all these options, "the backbone to facilitate [ESS] the best is the intranet," says Moore of Fujitsu. "The tools and different systems we can utilize over the intranet are easier to work with and navigate through."

According to Moore, intranet-based solutions have several advantages over IVR. One is cost, while IVR allows companies to reach employees who don't have access to a PC, it is much more expensive than creating an intranet, once the costs of phone line licenses and telephony servers are included. Another is speed. Doing online enrollment through a point-and-click operation on a home page rather is quicker than listening to all the options and pressing numeric keys on a telephone. "Browser technology is very efficient the way it processes," says Brian McIntyne, president of Working Concepts fice, a Columbia, Md., conculting firm that specializes in implementing enterprise HR and financial software solutions.

However, for software suppliers creating, SS colutions that link to acquaintation's emergine Statistics with the link an expansion of emergine HBMS, it is tought to say absent of the rapid productions protocols. "Keeping up with all these emerging presentation technologies makes in difficult for us to address a universal audience," say kerneuth E. Phillips, presidents of Employee Communications Services, a company whose product, Reversals Management Systems, allows large coxposition to manage employee benefits. "Cut engineers have to dipulse as to of these Communications Services, as one of the communications of the communication services and the company of the communications of the company of the company of the communications of the company of the company of the communications of the company of the company of the company of the communications of the company of the communications of the company of the communications of the communica





Iff is being put on the hot soct as line managers scramble to keep up with staffing needs, says Rob McGovern, president and CEO of NetStart Inc., a Reston, Va., developer of Internet recruiting solutions. Increasingly, Iff departments are turning to the Internet as a way to keep up with recruiting pressures. In addition to utilizing commercial Web sites such as The Monster Board and Career Mosaic, businesses are using their own home pages to post job opportunities and using Internet-enabled software solutions to retrieve, track and rate job candidates.

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Management Guru Speakers:

Barbara Beck, Vice President of HR. Cisco Systems Tom Stewart, Fortune Magazine Columnist and Author of

Columnist and Autho "Intellectual Capital" Al Walker, Father of HRMS,"

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Software Intelligence Vinnie Mirchandani, Research Orector, Gartner Group Ranhara Noti

Serior Research Analyst, META Group Catherine Loup, Vice President, The Research Board

Senior Executive Vendor Panelists: Jeremy Coote, President, SAP America

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Corporations are having consistentials with the concept of interestment ISS. In a pathing IM-related intermediate and on the interesttions notions contracts on excessing. Consecting, and ISS subjects may be a subject to the contract of the ISS of the ISS of the pulseyor Communications Services, a software company that of their secondition visited ISS in Table processpales. They were in this pulse promitting coordinated vanishing the Permail, most companion on a 18th of the Issuessian.

There is good reason for such concern confidentiality. "Employone supry about who can really see [their] information," says Jotrey flow, director of corporate IS for Solipidal, Inc., a broker of incursance and amployee baselfle. "Whether flows concerns are tree

Employees are rightly executed over this has access to such interestine. This their testing is and who have dependent are people this to hold information the that closer to the veri." Says Phillips. "Expessing data that might above an enthicir to have the sacial according members of your spaces, the hitthinton of all your children, is completed as it of possion are should be about a continued below."

and concrete, he seem, not many populational data when dissipated is string such data. Hency product to bears that responsibility to the health plan provider. There complayer may tell the health plan provider. There complayer may tell the health plan type here family consump, but out but the beath plan explanation and those family consumes any; "sopy Politips, institute that these the particularity relevant as more comparison asked thereit "present

opinates?" policies that antend the definition of a family monthly that confidentality concerns one and helding bidenting-edge companies that. "Wi course, security is a concern," any? Richard bingline memory of employee beautify at Eleay Bulley, a firm that plant is abl 10th light to 10th bide-enter arrorders on its combinent can on an

descript the Directiff and account thesis state. The shall not won't a good date to be administrate or the risks. The shall not won't a good date to be filled due to security reasons," says lington, "Senitor, our to lear accounted about ja backer accounting analysis information contains the Directiff than about complexes seeing each other's contract analysis of the Tail of the Contract of the Co

Publics notes that in the part six months, many companies are incoming more open to the concept of SSS over the intervet. As an example, rights in one company that has amounted plans to extend arrows to its interact-hand SSS content to the internet operating environments where our software is going to exist," he says. "It's a big challenge; they have to be on it constantly."

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Once a company decides on an intravert-based

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Vasc, the benefits equivalent of a fixed years, 15 cm/s

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of functionality are added.

Fujitus is in the process of replacing its DOS-based benefits system with HRConnect, a 'Net-based product from Conduit Software, in Norcross, Ga., that enables companies to redesign their processes so that employees can conduct their own business transactions.

According to Fujitus's Moore, the ability of HRC onnect to work with many different backend systems appealed to Fujitus, because the 16 companies in his group use a variety of databases from which benefits information must be obtained and pulled into the central HRMS. Those 16 companies vary in size from a few employees to 2,000, but "what they have in common is the intrance," says Moore.

Fujius is phasing in Intranel-based ESS, due to lack of employer familiarity with and access to decktop PCs, particularly among manufacturing users. But once all the users get confortable encolling in their benefit programs over the intranet (Fujius pains to deploy it eSS colution in October), he says, "We'll evend it to include new hires, family status changes that might effect flexible benefits, and ultimately extend faccoss to the internet."

Moore's group is also working on an automated electronic summary system, tied to intranet-based open enrollment, that will feed information on the rules of benefits to employees in a manner that is both logical and easy to navigate. The group will take the traditional printed booklet of information for employees and redesign it for the Web.

At AlliedSignal, a manufacturer of acrospace and automotive products in Morristown, N.J. roughly 27% of the employees are involved in manufacturing and lack access to a dealkap P.C. For several years, the company has used touch a constant of the control of the

To achieve this, the company chose the Inter-Action:Employee Life Cyde Management Software from Boston-based Interlynx Technology. The software integrates with a company's existing HR system and allows employees access from the intraret, as well as phone, fax, E-mail and klosks.

Alliacitizate steered the Intertyne product, because it had decided to add health care and dependent spending accounts to its list of beneath spending accounts to its list of beneath spending accounts to its list of beneath spending accounts to the law for the providing the spending accounts of the benefits of their choice, nature than providing the entitlement engine operational, we began to seek a runkey solution, which led us to Intertyne." Alliacitizated completed that errollment in May, with 6,000 of it domestic employees excessing the spending accompleted that errollment is found to the spending accomplete the spendi

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Intranet-based self-service is a way of giving employees "more control over what they can have," says Jeffrey Roe, director of corporate information systems for Sedgwick, Inc., a Memphis broker that provides insurafice, employee benefit and financial services. But that's not the only benefit Roe expects to reap with ESS. The technology reduces costs, particularly in terms of postage. "Once you eliminate FedEx and mailling, you climinate a huge overhead," he says. ESS is also faster, "you don't have to wait two to three days" to obtain infor-

mation, he adds.

Last fall, the company, which uses HRMS
software from Lawson Software, began to offer a
voice enrollment option to its benefits program.
This year, open enrollment is available via the
intraute alou, using Lawson's Web Page Generator product, (Sofgwide planes to upgrade to Lawson's latest HRMS relases later thus year, which
incorporates self-evident applications, i.e., Webcrabbled applications that require no trainings,)

"Employees were

saying, 'What do I do with this stuff?' Now we can't get enough information to them."

> Jeffrey Roe Director of Corporate IS

Sedgwick is currently working with a consultant to build a formal benefits online process, one that will offer more than open enrollment, including the use of electronic forms. Although only about 15% of Sedgwick's

employees are using the Web for benefits, "the internet and intranet are huge for us," says Roc. "In one year, it went from employees saying, "What do I do with this stuff?" to now we can' get enough information to them. HR managers want to do more to manage the process, and workers want access to more information."

Moving HR to the intranet even makes sense

for non-corporations. At Skidmore College, in Saratoga Springs, N.Y., most of the academic population is already proficient with Internet tools and knows browser technology such as Netscape. Skidmore recently purchased HR and payroll software with Web extensions from Oracle Corp. to replace a legacy system running on a minicomputer. According to Ken Hapeman, director of the college's Center of Information Technology Services, the Web extensions will be

"The backbone to facilitate ESS the best is the intranet."

- Darrell Moore

added once the systems is implemented, most likely starting with benefits enrollment.

"Employees are interested in using the Web," says Hapeman. "The HR department is interested in the efficiencies. We in the computer center are interested in having the casual user get at applications through the Web. They're more easily supported than putting client code on every

computer on campus." Hapeman does not expect employee training to be a huge issue. "The bulk of work that is process-oriented will be in the HR department itself, and most of them IHR professionals! have been to some Oracle training." He said the school will train a few people to be trainers inhouse, and for the Web-based applications. "we're hopeful they'll be self-training."

Moving to the Internet

Companies are also starting to open up ESS applications to the Internet, Elsag Bailey, Inc., a process automation, systems and instrumentation company in Wickliffe, Ohio, began its foray into ESS in 1995 with an IVR system, part of the Atrium Empowerment suite of ESS software modules from Innovative Business and Training Solutions Inc., a Cuyahoga Falls, Ohio companies (acquired earlier this year by Ceridian Corp., a supplier of payroll and HR management solutions in Minneapolis)

The first process Elsag Bailey moved to IVR was its paper-based annual benefits enrollment. According to Richard Hughes, manager of employee benefits, after all the paper forms came back from employees, both his department and the payroll department would enter that information into the company's Ceridian HRMS system. The goal of an IVR system was to cut the cost of this process, and Hughes says it took only 12 months for the system to pay for itself.

This year, Elsag Bailey implemented a corporate intranet, and the company added Atrium Empowerment's Web version of open enrollment, plus modules for Profile, Career and Policy. Because workers were familiar with intranet technology prior to the rollout of these modules, pensation and Benefits no formal training was required.

According to Hughes, the Profile application, which allows employees to call up and make changes and updates to their personal information "is a real benefit. Since we've had it up for the Web], we've had employees who have found an ex-wife still listed as a beneficiary on a policy, or an address they may have lived at two years ago." Changes that employees make via all the Atrium applications automatically update the Ceridian HRIS, eliminating any rekeying

Elsag Bailey is looking to extend its ESS solution beyond the intranet to the Internet as well. Hughes plans to add links to the company's third-party providers, such as its 401K provider and health carriers, so employees can go out through the firewall and access those sites. Security is a concern, says Hughes, but a calculated risk that company management is will-

ing to take. "By accessing our 401K provider's home page, our employees can review and transact their data online," he says. "There are too many good things about it to stop and worry about the one hacker" that might be able to access such sensitive information.

Colleen Free is a freedonce priter based in Bridges Mass., who specializes in software-related issues. She can be reached at Feeneyfryellaol.com

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An ability to see the future.
not a new superhero.
's you and your new

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Responsibility The horrific death of Princess Diana

has put the issue of personal responsibility back in the

The question on everyone's lips seems to be: Who is esponsible? The paperazzi who chosed her that night? The tabloids? The public appetite for celebrity gossip? The hotal that provided the drunken driver?

A similar debate rages over questionable content on the Internet — be it offensive, libelous or just pisin inrate. Who is responsible? The internet parvice provider? The Web site creator? The viewer who chose to Visit the site?

One test case is a libel suit now under way against the "Drudge Report," an online goosip publication, and its Internet service o vider AOL, Posted at the



the caller

site was an unconfirmed re rt that a White House aids best his wife. The acon was later withwwn and an apology was

Suing the creator of the page makes perfect sense. But the notion that an internet service provider can reasonably be expected to police countless pages of information on all the Web sites that use its services is abourd. That's like suggesting the telephone company is responsible for any illegal acts committed over its lines. It's not. Instead, the legal system appropriately focuses on the real perpetrator:

That approach must extend to the internet. The difference between right or wrong doesn't change because the delivery method is electronic.

With that in mind, the owners of electronic com merce sites should carefully monitor who posts what on their sites. Your company's financial assets, station and brand names are at stake. And once ared, it can be hard to recover.

Just ask clothing manufacturer Teenmy Hilliger ICW, taly sal, which was victimized by an internet fable alleging racism by the company's foundar.

Of course, Internet service providers can and shou short down illegal activities that are brought to their attention. But killing the electronic messenger ion't the answer to policing the Internet.

Enforcing personal responsibility is.

112MM Patricia Keefe, News edit Internet: petricia_keefe@csr.com



Mac users keep Wintel designer in the money

SEAD EDITOR PAUL GILLIN'S CO umn, "Sour Apples," (CW, July as with great enjoyment

I still challenge any Macintosh user to specify what a Mac can do that a clone cannot. As far as operating system stability, I have consistent memory problems with Macs with 48M bytes of RAM that I dop't have with Windows computers with 32M bytes. I don't care for Windows og but

use Windows 3.1 and Windows NT 4.0 with great success in very challenging graphic design situations throughout my company's Web site (unavandromedan.com) as well as in print and other media appli-Thanks for your enlightened yet

kindly suspessions to those poor Mac folks. I compete with them on a daily basis, and as long as my competition has to pay twice as much for a machine that is half as fast, I will continue to prosper. I hope they never switch to the

Wintel platform. Doug Kennedy Anchorage, Als.

Keep that "800-lb. gorilla" at bay with competition

AFTER READING David Mos-chella's column, ("Read this before downloading," CW. July a8), I just want to say, right on! I like companies that work hard to provide the best product possible at the best price possible. Microsoft has instead become an 800 pound gorilla. Any aid and comfort for their competitors is good as far as I'm concerned. Keep it up!

Kevin Coope Palimon Wash

Custom systems provide features valued by users FTER READING the July 14

A Buyer's Guide |"Desktop systems'l indicating that corporate computer buyers see initial cost of the system as the main purchasing factor. I was struck by how limited your sample was As a value-added reseller that

specializes in custom systems, we serve a corporate client base that may look at pricing as a

major component of their buying But their high-Desktop poll be the quality of had a limited components esse

Editor's reply: The 4,000 mi

who recrived Computerworld's cus-

tomer satisfaction survey represent a

broad range of corporations, govern-ment agencies, educational institu-

tions and other compenies. The sur-

vey test intended to mensure

satisfaction with PC vendors in com-

panies that employ hundreds of users.

We asked managers to identify their

PC suppliers from a list of brand name vendors or to name "other"

suppliers. Relatively few chose the

"other" option, and only a tiny frac-

tion of those mentions could be ide

fied as using custom-built PCs.

sample maintenance and cost-effective upgradeability that custom sys-

terms can provide. Please start including custom systems as an option in user sur-Radio Shack is one of the first plac-They are still the bestselling computers on the market

> Richard Halter Correllis, Ore nkstorm@protxis.com

Walter Edvalum

ers shouldn't exceed ds and should be admecticut Path, Fra ss. 01701, Fax mu

Radio Shack supporter must be on a different frequency

WAS BLOWN AWAY by the arroance of Steve Mol's letter to the editor [CW. July 21] about the benefits of Radio Shack's customer

To say that customers shouldn't shop at Radio Shack if they don't want to give out their address is either arrogance or ignorance -

maybe both For Mol to say that Radio Shack products don't contain a warranty card because the registration process is automatic ("provided that you offer your cor-

rect name and address") is curious. Who would know that other than someone who works for Radio Shack? After all, no one is really buying anything of importance there. Sure, if I need speaker wire for my reo or an adapter for my phone

es I will so. But for major appliances such as computers or stereos. I will always go to one of those big, cold, impesonal stores on the busiest street in

Layton, Utah

Think 2000 is bad? Just wait 'til 2001 Michael Cohn

he last thing you need is more gloom and doom. You already work 80 hours per week, and you're months behind. Your wife, your kids, your dog doesn't recognize you. You don't take vacations - just aspirin. Well, you're probably not going to like this, but it's about to get worse.

'This year 2000 thing is going to hit like a ton of bricks. And that's the good news. Because after 2000, some really bad things are going to happen - even worse than what's happening now,

Maybe we fix all our year 2000 bugs, or maybe a few million lines slip through the cracks. Maybe a bunch of overlooked. chins get cranky on Jan. 1,

appp. Maybe it takes a few days, weeks or months before it all hits the fan. But there could certainly be a lot of it

And if a whole bunch of executives even now, they definitely won't after it - in Kansas City.

Sadly, somewhere between 2000 and 2001, we'll brobably need to squeeze n 40 more years.

appens. They'll just wonder why their bank, cable TV or toaster oven doesn't work like it used to. And they will blame us - the easy targets, the programmers, the guys who have been warning them about this since Dan Quarte was

vice president, yet no one would that even give us \$505 to attend a conference But blame is just the beginning. We'll also be burnt out. We'll have spent 64 consecutive all-nighters trying to limp

hrough 1999 And in January when things are all over the floor, these year 2000-awalo executives will staddenly want us to drop all the stuff that we already dropped ev

Forget everything else," they'll say Get the system back up and runnin Do whatever it takes. And let

us know if you need anything - as long as it's not people. time or money."

This brings us to somewhere in the third quarter of 2000, when the next phase hits: the

Because by then, most of ible to maintain legacy stuff will have been replaced by impossible-tomaintain client/server stuff, and a whole bunch of loval Cobol workhorses slaving on year 2000 conversion projects will be

out of work. Lacent demand will not save them. New projects will not save them. After 2000, companies will have no money, no patience and even less head count.

"Honest, boss, there's a whole lot of stuff I can do with my year 2000 experi-And the boss will say, "I agree, just go

do it someplace else."

Which finally leads us to 2001, when things get really use's

We're helplessly losing credibility. Los-ing funding. Losing all remaining hair Suddenly all the new moved-into-produc tion-too-soon systems (which replaced the old no way-they-could-make-it 2000 systems) will start breaking all over

And there will be more bugs. More trouble. More firsts shaken at alreadyshaken programmers. More blame. More budget cuts. More lavoffs. More assirin.

Where does that leave us Eventually, all will be OK. There will be new technologies, new projects, new op portunities. IS will boom again.

Let's be honest. We've been doing this a long time. Since 1960, we've put 40 dedicated years of blood, sweat and elbow But sadly, somewhere between 2000

and 2001, we'll probably need to sque in an more. Cl

Cohn is a competer consultant in Atlanta and is pretty burned out already.

Readers respond: That clunker's no junker Michael Schrage

uite a few irritated readers tried to run me off

the metaphorical road after my last column. comparing legacy systems with a 1971 Pontiac. their hoods up.

comments: "I own a ra-year-old car. It's a Mercedes diesel that I was surprised to obtain only a year ago at a price comfortably within my budget. I threw some mey into it right away to get it in perfect mechanical condition. It runs like a top. It's the best combination of safety. ability and economy I've ever owned in my life, and it doesn't look bad either It has a remaining life expectancy that is still about double of any machine that will roll off the assembly lines this week

Tom Igleheart wrote with the following

Between now and the day it dies, it will have cost me, at most, one half the expense of keeping myself in a newer-model, senier and more dangerous car. It's paid for, I understand everything about it, and I am in complete control of the 'investments' that get put into it (or not). And Iduring those New England winters). I don't have to frantically drive around those potholes that tend to leave leaser cars by the side of the mod with

Perhaps best of all, when the inevita hie ads for the latest "I Inhelievable Week. end Blowout on the Hottest New Auto mobiles' interrupt my otherwise peaceful existence, I can laugh at the histrionics of the Madison Avenue crowd trying to drain my bank account through the New Car Dobt Trendmill

OK fair comment The less charitable Ed Welbon added the following: "I don't drive a Pontiac but I do drive a 1986 Buick. The last time I ran it through the quarter mile, it did 12.2 sec. at 124.4 miles per hour. I get 26 miles per gallon. Will your Porsche do that? I have changed the car quite a bit,

but I don't have \$500 per month payments. Sometimes the old things, with appropriate tweaks, really are

better. Now let's get son thing straight: I don't drive a Porsche. While we're at it. I also don't believe that just because a system is a ao-year-old legacy scribed in Cobol means it should be junked. But in this column I've always tried

to be honest, and I expect the same courtesy from my readers. Yes, there are as-wear-old Cobol systems that are mission-critical and that merit maintenance. But then could someone explain to me why outsourcing has become the fastest-growing service business around? Do you think we've seen distributed computing explode because legacy systems have been so well-maintained

and are so If the bulk of

are so robust, reable and cost

Distributed computing did not explode because legacies are so well-maintained.

ponies radically trans forming their digital infrastructures so Simply because of new technologies?

Get real! Of course, maintenance isn't about throwing good money after bad. But do we really grasp the opportunity cost asso ciated with preserving a legacy at the ex-

pense of creating new media for profit-I'm very comfortable arguing that there are as many companies doing a su-perb job enhancing systems that should be replaced as there are companies botchine client/server architectures and

et implementations. But that doesn't excuse or explain an attitude that legacy systems merit the untity and quality of resources that they seem to be getting as a000 ap-

I admire people who can keep a classic car running smoothly and cost-effect ly. But do you think they are the rule or

the exception? Schrage is a research associate at the MIT Media Lab and author of No More Teams! His Internet address is schrage@media.



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Corporate Strategies

Briefs



Heartland is home for foreign IS pros

· Company goes global for rural assignments

By Julia King

LOT OF systems in nes persuade their conats to take on projects in out-of-the-way places by paying fat bomuses and promising plum assignments next time. Not Pittsburgh-bised Mas-tech Corp. It relies heavily on se wanderlust of foreign professionals, whom it recru dobally for information syseens jobs in places ranging ta to the back hills of Tennessee.

call it the 'See America' in," said Steve Shangold, vice lent of professional ser vices at the 10-year-old, \$125 million software services com-

about six months to a year in one place before moving on to other job; often across the

Mastech's customers, includ-ing Nissan Motor Corp. in Smyrna, Tenn.; Wal-Mart ores, Inc. in Bentonville, Ark.; ed LodgeNet, Inc. in Sious Falls, S.D., get the benefit of consultants' broad and varied expertise, Shangold said.

A prime example is Sundara in Paramerwaran, a a8-year old senior software engineer from Mumbai (formerly Born boy), India.

A Mastech consultant sino 1992, Parameswaran's first as-signment was in Dallas at ISM. Fereign, page 42

Utility solves its data mart dilemma By Craig Stedman

THE THOUGHT OF taking two or three years to build a big data ouse didn't turn on executives at MEAG Power. But neither did the specter of sprindata marts around the Atlanta-

So the Municipal Electric Au thority of Georgia (MEAG) joined similarly conflicted componies in searching out a mid-

entally develop a data wareuse by stitching together a series of data marts under a single database and architecture

If all goes as expected, that will let it keep a tight enterpriselevel grip on the data mart proas. To further aid the caus MEAG Power won't build data marts at the beheat of individual departments. Instead, the company, which had \$500 million in enue last year, put the vice sidents of its five operating isions on a board that will prioritize projects based on

siness needs. "Management doesn't have ough patience for us to develop it all at once, and things Jin e electric industry) are chang ing so quickly that we'd be try ing to hit a moving target," said Meri Lea Miller, manager of MEAG Power's warehousing project, "But building unmanaced data marts just gives you a mch of little data ware-

Distribution package lifts bank merger

By Thomas Hoffman

DUSTNG ITS SECENT IDEE with BayBank, Inc., Bank of oston Corp. married 6,000 workstations to the same OS/a application base in an effort that required quick delivery (seven weeks), minimal staff (six technicians) and one automated software distribution system.

The strategic use of the Ente ise Desktop Manager (EDM) om Mahwah, N.J.-based Nova digm, Inc. seemed like a no brainer in the merger-crazed resource-dependent banking in

Yet curiously, few banks use automated distribution software for any purpose, and many banks "never effectively merge their systems" at all, said Octa vio Marenzi, research director at Meridien Research, Inc., a fi nancial services and technology

consultancy in Needham, Mass



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Airline routes arriving data to one terminal

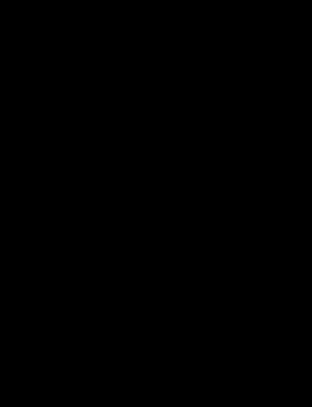
By Jaikumar Vijayan CHICAGO

A NEW WORKSTATION CRIVED ment is helping United Airlines get a better picture of its operations. And that could help the company save some serious ey down the read.

The Chicago-based zirline that gives staff at its Or

giant finished implementing an integrated workstation platform Control Center a single view of





Corporate Strategies

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Briefs

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m 16% to 37% of all tr \$10,000 to \$6 mil with about half of all com ending at or be

ackholders of MCI Cor

nications Corp. filed a class ac tion lawsuit charging MCI's officers and board of ectors misled them when BT last month said it wor pay about \$17 billion for the 80% of MCI shares it doesn't own. Under the original agree nt announced last year. BT was going to pay \$41 billion. The lawsuit was filed Aug. 28 in U.S. Dietrict Court in

Do telecommuters at your company feel they are more or less a part of the office loop because they don't work in



More a part of the office Less a part of the office

The same Don't know

ment is helping United Airlines get a better picture of its opera tions. And that could help the company save some serious money down the road The Chicago-based airline giant finished implementing an integrated workstation platform that gives staff at its Operations Control Center a single view of

Airline page 42

Mastech consultant Sunders Utility solves its data mart dilemma

Heartland is home for foreign IS pros

· Company goes global for rural assignments

country. Mastech's customers, includ-

By Julia King

A LOT OF systems integration companies persuade their con sultants to take on projects in out-of-the-way places by paying fat bonuses and promising plum assignments pext time Not Pittshureh-hased Mas

tech Corp. It relies heavily on the wanderlast of foreign professionals, whom it recruits globally for information systems jobs in places ranging from the praints of South Dakota to the back hills of Tennessee. "I call it the 'See America' nlan " said Stree Shangold, vice president of professional ser vices at the to-year-old. \$125 million software services comnany. Mastech's foreign IS con-

aian Parameswaran, a 28-yearold senior software engineer from Mumbai (formerly Bornbarr), India A Mastech consultant since 1992. Parameswaran's first as

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and LodgeNet, Inc. in Sitio

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Meridien Research, Inc. a fi nancial services and technology consultancy in Needham, Mass Bank merger, page 42

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By Crang Stealman

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arriving data

By Jaskumar Vijayan

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tive: To get all ation-related rmation (Flight ing, aircraft routin od crew scheduling) from

integrating all mission critical and decisionsupport applications rms into en HP Uni workstation enviro ntial savings: \$50 on annually in fuel,

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stal approach

Utility, page 42

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Bank merger

CONTINUED FROM PAGE 3

The biggest roadblocks that keep banks from using distribuon software include variations between software releases and heterogeneous environments nong merging institutions.

renzi said. Novadigm's product auto ates process change and ofiguration management so that when updates are made to client/server applications. they have to be done only once. Other software distribution ols include Microsoft Corp.'s for Windows NT and Dolphin SDS/Open from Dolphin Software Systems, Inc. in Alton

BankBoston Corp., as the merged entity is called, used Novadigm's EDM before the BayBank merger. In late 1995. the bank replaced its IBM 4700 based terminal emulation sys-tem for bank tellers with an IBM OS/a-based system called BankPro from Argo Data Resources Corp. in Dallas, said Chris Rigby, manager of Bank-Boston's software distribution

As part of the merger, Bay-Bank's 333 branches and 3,000 retail workstations across New England were ported to Bank-Roston's Areo environment. BankBoston also inherited Bay-Bank's Cross-Sell Manager sys-tem, a software package from

un Technologies Corp. in Charlottesville, Va., that lets banks link customer account and cross-sell products to them. BankBoston benefited from

Novadigm's package in several ways. First, the bank could use the software distribution system to port applications without affecting premerger operations at oston and BayBank. Postmerger, the bank uses EDM to react to business changes on the fly. For example, if the Dow Jones industrial average ets aso points on a Thursday, BankBoston can use EDM to immediately change its certificate of deposit rates, Rigby

INT SPOT

Like most bank mergers, Bank of Boston/BayBank had its share of technical snafus, including call-center glitches and problems with automated teller machine networks malfunctioning, Marenzi said. The success of the automated distribution system has been a bright spot. When we were first coming

out of the gate (with the Bay-Bank merger), we went to the owing) board many times with things that didn't work and didn't scale," Rigby said. With EDM, "we have a predictable system to mil out changes with a very high percentage of success."

Foreign IS pros find a home in the heartland of America

CONTINUES FROM PAGE 39

From there, he went to La Faror Corp. in Montreal for several months before he was transferred to a Chicago Stock Exchange data center in Indianapolis for a three-month stint. For the past two years and three months — his longest assign-ment yet — he has lived in St. Louis with his family physician wife and his 18-month-old daughter while working at Blue

Cross/Blue Shield of Missourt. "The main reason I joined Mastech is I'm new to this coun try and I want to see new places," Parameswaran said. "I've been getting offers from companies for full-time employment but I'd rather be with Mastech so I can go to different cities. I'm ready to travel anywhere The money also is excellent, Parazneswaran said. His status as a foreign national basn't imneded his earning a market rate and more - for his work. He declined to specify his income. but said. "Earning the prevailing rate is not at all a concern.

NAKING ADJUSTMENTS The same is true for a8-year-old Danesh Shah, also married and

from India Shah was a client/server de veloper at Citicorp Software Ltd., a Mumbai-based subsidiary of the U.S. banking giant, when he read about Mastech in an indian computer trade magazine He joined the company in

Airline routes arriving data to single terminal

information that previously was gathered from three reparate

Operations Control staff type cally use such data to decide aircraft routes and crew schedules and warn pilots of expected delays or rough weather. With inmation collected in one place. United officials said, they expect to finish tasks quicker and with more precision We are able to perform our

obs more efficiently than ever before because data is available quickly and in a format that is cary to understand," said Ron Smith, manager of flight dispatch at Umited.

United officials wouldn't say how much the airline spent to implement the new technology from Hewlett-Packard Co. But they said they hope to save at least \$50 million per year in fuel and delay-related costs as a result of the integrated envi-

Such moves are typical of ongoing efforts by airlines to inject new technologies into their operations while retaining sizable investments in mission-critical — but often outdated — lessey supment, said Barbara Beyer, president of Aymark, Inc., an aviation consulting firm in Ar-

ington, Va.

another, he said

1991 and now works and lives in ouston with his Indian wife. "It is fun to move," Shah said. But there also are adjustments that must be made, even in moving from one U.S. city to

In Miami, for example, "it was too carnal. You were allowed to wear shorts in the office," Shah said. "But in Houston, everyone wears a suit and tie every day, despite the 100degree temperature

Shah said he has observed that, in general. American IS professionals "want to keep their work and home lives total ly different. They live two different lives - one from eight to five and then another one from five to eight, which is a little bit

strange for us," he said. In India, by contrast, "if you work together a long time, you don't just remain colleagues; you become real good friends. But that doesn't happen here."

money through improved flight planning and tracking capabiliies offered by the new systems United's Operations Control

Center is a 24-hour facility situated at the company's heads ters in Chicago. The center handles flight plunning, aircraft routing, crew scheduling and cancellations for United's a 300 daily flights to 136 destinations The staff depends on a pever

ending stream of information Utility

hands of MEAG Power's execu-

tives and business analysts by

early next wear. Miller said. Be-

want to throw together stow

pipe data marts that keep users

from running queries across the

enterprise. And the unknowns of deregulation make any data

mart "disposable." said Rob

unifity hossi But MEAG Power doesn't

'Airlines use state-of-the-art equipment when it comes to their aircraft, but they are sever al decades back" when embracing new technologies for some of their operations related work Beyer said. In addition to fuel and delay-related costs, she esti mated that United also will saw

> Department of Defense contractor in Waterford, Conn., to over lay weather maps on radar im ages. Sonalyst's WXstation fivare — originally used to track submanines - gives Unit ed's flight dispatchers highly detailed views of weather patterns on an aircraft's mute. D

that flows in from nine different

sources. That includes weather proorts from its own metrocological staff, flight and radar in-

formation from the Federal Avi-

ation Administration and the Air Transport Association, and

reports from United ground

crews at various airports around

Most of the data goes directly

into the company's IBM main frames, from where it used to be

accessed via proprietary terminal

emulation software from multi-

ple locations. United now uses

the same software to access the

information on new Unix work

stations, while adding new tools

to synchronize and integrate its

For example, United uses software from Sonalyst, Inc., a

multisourced information.

the country

architect at the utility. "We've got to have an infra-structure that can support rapid

changes, because six months CONTINUED FROM PAGE 39 from now everything could be should put some initial data analysis capabilities in the different," Gaylord said. "We don't want to rebuild the sucker every time we need to add some-

with warehousing projects also ing able to better track things. are building so-called virtual such as profits across different data marts that share a single divisions is becoming crucial as deregulation brings a new era of database and can grow incre-mentally into a full-fledged data increased competition to the earthouse ICW. Aug. al.

Kevin Strange, an analyst at artner Group, Inc. in Stam rd. Conn., said building a data warehouse in stages can help in formation systems departments balance demands for fast access to decision-support data with the need to lay down a solid en-

Gaylord, the data warehouse MEAG Power has six fina cial analysts who use a small pilot date mart that was built with Microsoft Corp.'s SQL Server tabase and New York-based Information Builders, Inc.'s SmartMart tools, Miller and Gaylord said they are putting to-gether an action plan for the full warehousing project, which should be ready for review by

the project board this fall. The data warehouse is expect ed to require a seven-digit in vestment over the next three years and could grow to the tera byte range, Miller said. But de regulation makes it hard to pin down the exact project scope. O



[deta marts] on the fly"

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The Internet

Electronic Commerce + The World Wide Web + Intrenets

Briefs Bank uses Java to move online



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Don't trees

▶ First Tennessee answers call for services on the 'net By Sharon Gaudin

FIRST TENNESSEE National Corp. uses Java to connect with its customers over the Internet.

The bank, which has \$11.4 sillion in assets and is the soth largest bank in the country, is about to offer its customers an online automated teller machine (ATM), check registration, bill paying and financial advisory services online. lava offers developers at the

bank the cross-platform capabilities and the security needed to do the job, said Tripp Johnson, manager of new technologies at First Tennessee. Johnson said using Java to build applications means he worries only about the quality of the applications, not about what cus on their desktops.

Because customers soon are poing to expect their bank to ave services available over the ernet. Johnson said he wants



to get First Tennessee out ahe of the curve — another reas to pick Java. "For our Inne unk, we need to work with did rent back-end protocols, and that's not a big issue with lava. he said

Many financial institution will follow First Tennessee on the Internet, said Bob Landr director of retail banking ad-sory services at The Town

Group in Newton, Mass. Few banks are colline now, but sely adopters such as Wells For go Bank are charting the territory, and financial services giant NationsBank Corp. will be on

by the end of the year, he said.
"Innovators who promo this kind of move aggressive will get the most mind sha and market share comes with that," Landry said. "This is the kind of move that will attract

gher-quality custo om other banks." The two-tier applications are built entirely in Java, usin passwords and Java's built-in sandbox" restrictions for security, but they can increase secu-

rity by delivering informati Java, page 47

'Does this make us any money?'

Chris Stone, former president and CEO of Object Management Group, last week officially becau those plans Novell, Inc.'s senior vice president of corporate strategy and business elopment, with the goal of vaulting the company into the strata of the major Internet/ intranet players. Computerworld

senior editor Carol Slipp recently caught up with him to discuss

CW: What's your mission in the STONE: I view it as a classic turnaround opportunity. Really smart people. Great product. (A company) that really needs

some strategic direction in technology, products, partnerships The issue (has been) getting rategic focus inside the comnamy and then expanding that so that people outside the com

pany can actually understand what Newell wants to do. CW: Do you have a sens what customers want from

STONE: I think most of the customers are happy with the products. What they're con-Stene, page 46 you called somebody," recalled

· At engineering services firm...

Intranet offers access

By Sharon Machlis

SUBCERONIC TIME CANDS don't do much for efficiency if the cards are printed in branch offices

and then mailed or faxed to IS headquarters, where the data is rekered by hand.

But that's what Galaxy Scientific Corp., an engineering ser vices company in Egg Harbor Township, N.J., did. Its network had no remote access for the time sheet system and offered

only slow dial-up connections for other purposes among offices across the U.S. Other problems: Electroni mail was often several hours be-

hind, and the company sent a lot of its important correspondence on paper by next-day mail.
"If you needed informati

GALAXY'S INTRANET

Efficient electronic time card system

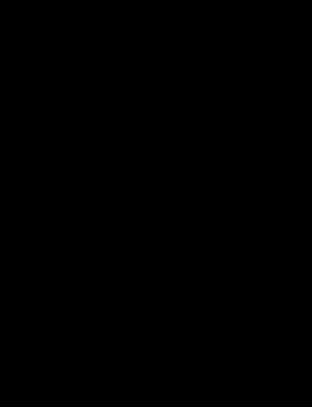
E Easier project collaboration

E Cheaper long distance phone bills

Glenn Botkin, systems engineer and intranet project manager at the company. "About a year ago. our CEO decided he wanted an intranet. . . . We needed to con-

nect our offices." With security a major concern, doing the project in-house would have meant installi

letranet, name 47



The Internet

Electronic Commerce . The World Wide Web . Intranets

Briefs Bank uses Java to move online

Impact directories?



- The Internet will exacerbate directory
- The Internet will have Internet standards will

ease directory problems

Base: IS professionals in 50 Fortune LOOD companies

Auto-routing The Electric Mail Co. in Van-

er. British Columbia, anng service called AKA ninistrators crealloses that are suic y routed to existing or use on its World Wide nat is sent to that add rded to other add

SFT-time standards

s. SET is being po

• First Tennessee answers call for services on the 'net

By Sharon Gaudin



The bank, which has \$11.4 billion in assets and is the 50th largest bank in the country, is about to offer its customers an online automated teller 'machine (ATM), check registration, bill paying and financial advisory services online lava offers developers at the

bank the cross-platform capabilthes and the security needed to do the job, said Tripp Johnson manager of new technologies at First Tennessee, Johnson said using Java to build applications means he worrses only about the quality of the applications. not about what customers run

on their desktops. Because customers soon are going to expect their bank to have services available over the Internet, Johnson said he wants



to get First Tennessee out ahead of the curve - another reason to pick lava "For our Internet bank, we need to work with different back-end protocols, and that's not a big issue with Java."

Mary financial institutions will follow First Tennessee onto the Internet, said Bob Landry, director of retail banking advisory services at The Tower

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GALAXY'S INTRANET BENEFITS

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- time card system Easier project
- collaboration Cheaper longdistance phone bills

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Stone: 'Does this make us any money?'

erned about is that they bet their cafortable that Novell is in it for the long term, and right now, many of them aren't. That's probably the toughest job right now: winning back the hearts and minds of these kinds of people.

frastructure, you have an enormous impact on all the infrastructure people will require and build things on top of it. We have that. Three years ago, four years ago, Novell had that model. But they couldn't figure out how to do it for

the network, the Internet in general.

CW: Whom do you consider your chief ompetition in this regard? STONE: Certainly Microsoft. And to be quite honest, the competition in this regard right now are all the (small) independent companies

CW: List three goals to achieve by the end of the year.

STONE: Turn Novell into a intranet/Internet provider. Continue to roll out products on a very timely basis. And, in our message, a consistent single strategy that everybody sings, everybody can explain and commit to D

CW: How important is Java going to be in Novel's overall strategy? STONE: I've thought that Java and distributed object computing and the no-tion of a network, rather than an operat-ing system, is Novell's future and that Novell was in essence waiting for something like that to happen to it. It just didn't know it

lava is probably the most im on environment for us. We will build the future of our services all using lava APIs and lava execution. But the really interesting applications and services for Novell are on the server. We really don't care what the front end is. What we do have to figure out is how those appliances configure into a network.

"He who owns the infrastructure will make money."

- Chris Stone, Novell

We will provide a set of core services that should be available to any given network, then we will expand on that. We've got to find five or six really next services that we can make a lot of money on.

CW: Can you give some examples? STONE: There's a set of core services that you have to have: security, data replication, a directory service - which is what Novell is really good at — and then the more mundane things like print and file, systems administration. Those aren't thing we're going to make a whole lot of money on.

[Moneymakers] may be very don specific: an application for a patient index system for the entire hospital network that allows any physician to look up a medical record history or link into a prescription drug program. Today, what's the model? It's all on paper.

CW: Will Novell actually write and sell STONE: It's the make/buy decision. I

think most of them we'll probably partner - either buy or license or something like that. My mantra is: Does this make us any

CW: If you partner with somebody, aren't going to make a lot of money off the make people want to use Novell products - it offers these service

STONE: He who owns the infrastructure will make money. If you own the in-

totally expandable,



Intranet

CONTINUED FROM PAGE 45

high-end firewall software at each of eight locations, at an estimated \$20,000 each, according to Botkin. Also, there would be the staff demands of "continuous maintenance and management," he

Instead, Galaxy ended up outsourcing

the plan, using service provider PSINet, Inc. in Herndon, Va., to develop a systern based on Internet protocols that, besides connecting six major offices and two branch offices, would also allow remote access by employees and extranet features for key customers and par For now, remote users connect by dial-

up, although the company is working to enable access via the Internet. The new setup lets senior engineer

Dick Saboda, who typically spends two eks each month on the road, acce the entire office network instead of simply E-mail messages. Instead of doing time sheet and expense reports when he returns to the office, "I do them while

I'm in the hotel, with my feet propped up and my shoes off," Saboda said. That's double productivity."

He also has been able to downlo

software patches to fix customer prob-

lems while conducting in-field systems training instead of having disks sent by

Federal Express Corp.

Botkin calls the setup a full-service in tranet, although he said other buzzwood such as WAN, virtual LAN and extranet

could also apply. Comm among offices go over PSINet's Intern circuits, isolated from the rest of the public Internet by filters, routers, fire-walls and other security measures. Galaxy controls access using nets

sion policies. Botkin explained The server assigns each log-in a certain allowable IP range, so users are grante access only to the portion of the network they are supposed to see, "It appears to keep pretty tight rein on things," he said. International Data Corp. in Framing-ham, Mass., predicted there will be 4.7 million intranets by 2000

More companies are turning to out-sourcing to develop such network ser-vices in part because they "don't have the skills and resources to keep up with the rapidly changing technology, said Dan Merriman, an analyst at Gigs Informa-tion Group in Cambridge, Mass. Their own internal network staff is over-whelmed." The potential drawback: losing control of and flexibility in their in-

ormation systems management.
At Galaxy, the Interpet-based nets saves time and money, Botkin said. Time sheets for about 300 employees can be sent electronically to headquarters, where the data is incorporated in an integrated financial system, eliminating the need for staff to key in data manually

"Our E-mail has improved many-fold" from the hours-long backlog before. Botkin said. The company has saved on several hours of daily long-distance telephone calls for dial-up data exchange, or about \$1,000 to \$4,000 per month.

The network has also helped people collaborate better on projects. One large proposal in the works, involving per nel in three locations, uses Internet-based nications to draw up the plans. The stuff is flying back and forth, Botkin said. 'It enhanced the quality of what they're putting together. . . . they're way ahead of their deadline."D

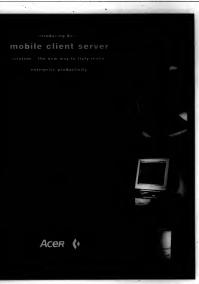
Java

CONTINUED FROM PAGE 45

applets rather than text files. The online ATM application, for example, will receive a request for a customer's account balance, then retrieve that information from a database and ship it to the cus tomer as an applet. The customer never gets a direct view of the account information, reducing the chance of a hacker

intercepting or changing it. Johnson, who is responsible for both marketing and information systems for the online banking system, said part of the process was persuading his Fortran and Cobol developers to work in Java.

"It didn't get much initial excitement." he said. "You go talk to a bunch of Fortran and Cobolers about Java, and it takes a while."



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Briefs E-mail spec may boost reliability

▶ Middleware initiative could improve BOM

By Barb Cole-Gomolski

surroursas or a vendor initiative to make electronic mail bulletoroof plan to roll out a message-queuing specification at the Electronic Messaging As-sociation's Solutions Summit later this month in San Jose,

Microsoft Corp. and IBM collaborated on the Business Quality Messaging (BQM) specification, which describes how message queuing products should work. The two vendors, along with Intel Corp., launched the BOM initiative in April. Some users said the BQM ini-

tiative may provide a way to im-

the point that it is useful as a platform for message-enabled applications. Others are taking a wait and one stringe

The idea is that by using

message-oriented middleware users can improve the reliability of E-mail and link applicati to their messaging network rware products in chade IBM's MQWare and Mi crosoff's MSMQ, both designed plications and guarantee their

The vendors involved have been rallying corporate develop

ers and makers of third-party messaging products to support BQM in their offerings. If you believe the me ackbone is central to the de-

syment of collaborative applications, you'll take a second look at BQM, said Greg Scott, inforon systems manager at the College of Business at Oregon State University in Corvallis. 8004, page 57 Start-up eves access via Internet

Microsoft

Megarouters moving up the scale



 Service providers seek quicker access

By Bob Wolloce

SOME INTERNET SERVICE PROviders say they will need to implement megarouters to offer users reliable access to the Web for electronic-commerce appli-

controls based on group lists Service providers are finding that some of their networking Corp.'s Windows NT. VPN equipment can't scale to keep nce with skyrocketing demand for World Wide Web access. Lo, , due year's end, will add more support tools, includ-But the routers that some need

o't commercially available. "The toughest problem we ce is scalability," said Alan Taffel, vice president of business development at UUnet Technologies, Inc. in Fairfax, Va. UUnet's backbone network now

runs at 622M bit/sec. "We need to rum it at a.cG bit/sec., but there aren't products out there ow that can support that speed, and that's a massive problem." Taffel said he would like to

tees in the UUnet within a year, chiefly Po Matt Hambles START-UP Aventail Corp. in Se attle has announced a new version of its Virtual Private Net work (VPN) software, which was

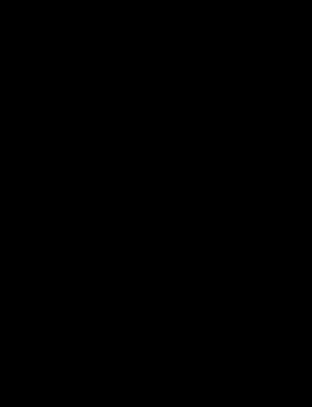
designed to allow systems man agers to give remote workers business partners and custom ers secure access to a network across the Internet. VPN 2.5 adds supp

curity Dynamics Technologies Inc.'s SecureID password/token security sys term. It slan adds the ability to build access

ing an application that eases re-MORE SOPHISTICATED

Aventail's products operate at what is known as the circuit level proxy in the Internet Protocol stack, which gives the prod ucts a more sophisticated meth od for authentication than mos other Internet-enabled security

products, said Dan Merriman an analyst at Giga Informa Group in Cambridge, Mass erriman said the prod could enhance the secure envi



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NT burnlar alarm

Briefs E-mail spec may boost reliability

Middleware initiative could improve BQM

Ry Rarh Cole-Gomolyki SUPPORTERS OF a vendor in-

native to make electronic mail bulletproof plan to roll out a message-queuing specification at the Electronic Messaging Association's Solutions Summit later this month in San Jose. Microsoft Corp. and IBM

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prove the reliability of E-mail to the nount that it is useful as a platform for message-enabled applications. Others are taking a wait-and-see attitude.

The sdea is that by using message-oriented middleware, users can improve the reliability

of E-mail and link applications to their messaging networks. Such middleware products in clude IBM's MOWare and Microsoft's MSMQ, both designed to deliver messages between applications and guarantee their The vendoes involved have

been rallying corporate develop-

BQM strengths **BOM weaknesses** I improves the Few products are ability of

E-mail systems

■ Enables application to-application communication

 Allows sites to deploy message-driven applications, such

as workflow ers and makers of third-party messaging products to support

8QM in their offerings. If you believe the messaging backbone is central to the deplayment of collaborative applications, you'll take a second look at BQM, said Greg Scott, inforition systems manager at the

College of Business at Oregon State University in Corvallis BOM, page 57

8 Requires an additional

No common BOM API exists to let BOM products interoperate

Start-up eves access via Internet fly Matt Hamblen

START-UP Aventail Corp. in Seattle has announced a new version of its Virtual Private Network (VPN) software, which was designed to allow systems managers to give remote workers. business partners and customers secure access to a network across the Internet

VPN 2.5 adds support for Se curity Dynamics Technologies. Inc.'s SecureID password/token

tem. It also YPN adds the adds the ability to build access ability to build controls haved access controls on group lists Microsoft based on group Corp.'s Win

lists in NT dows NT VPN

Lo. due by war's end will add more support tools, includ ing an application that eases remote connection to a database.

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Start up, page 57

Megarouters moving up the scale ► Service providers seek quicker access

By Role Wallace

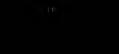
SOME UNTERNET SERVICE DIO-

viders say they will need to implement megazouters to offer users reliable access to the Web for electronic commerce ands Service providers are finding

that some of their networking equipment can't scale to keep pace with skyrocketing demand for World Wide Web access But the routers that some need aren't commercially available. The toughest problem we

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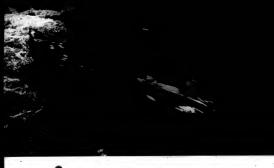


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THE FUTURE IS WIDE OPEN

ENCAN TECHNOLOGY LANS, MC has announced the ATM ge Switch, a switch that

nes legacy voice and data with Asynchroness Transfer Mode traffic. According to the lip Md., company, the switch was designed for sites where contion of private branch

change, video conferencing or point-to-point data applica-tions is needed without a complete system redesign. The hardware allows users to broadcast information to multiple sites via multiple commu nications links. It offers trans-

ons speeds up to 622M bit/sec. Pricing starts at just under

rican Technology Labo 10) 223-9758 - 111 - 121

ye openment, mc. has am-nounced Direct-To-1, a utility that provides messaging mi-

servers to Lotus Notes. According to the West Ches ter, Pa., company, the software lets users move digital mail messages and other documents to Notes while retaining

ermation, such as electron ic-mail addresses, and message header attributes, such as identiality flags. The single-unit price is \$49.

I/G Openware (610) 241-6000

SPIEGES, INC., has any the SHA220, SHA400 and the SHA450 high-speed SCSI adapter cards for SPARC workstations and servers from Sun Microsystems, Inc.

According to the Newbury Park, Calif., company, the single-slot Shus adapters pro-vide SCSI and Ethernet I/O for desktop systems, tape backup, RAID, network and other peripheral devices. The SHA220 offers Fast and Wide SCSI-a at aoM byte/sec. and 10/100M

bit/sec. Fast Ethernet inter ules also offer Explicit Rate faces. The SHA400 is an Ultra Wide SCSI-a single-ended adapter with throughput of 40M byte/sec. The SHA450 provides slightly improved the

rates over SHA400 for peripherals linked at greater distances. Fore Systems The SHAzao costs \$695. (413) 742-4444 the SHA400 costs \$495 and the SHA450 costs \$550.

(805) 376-1000 rw.integrix.com

FORE SYSTEMS, INC. has announced two ForeRunner Syn chronous Optical Network/ SDH network modules for ForeRunner ASX-200BX and

NEW PRODUCTS

ASX-1000 ATM switches. According to the Warren dale, Pa., company, the Asyn-chronous Transfer Mode (ATM) network modules provide ForeRunner ATM switches with a buffering capacity of 1 million cells per switch. The ISSM and 622M bit/sec. modAvailable Bit Rate hardware support, which lets source addresses analyze and adjust traffic volumes when congestion

Pricing for the modules starts at \$3,995

HICRO COMPUTER SYSTEMS, III has announced Calypso Wire-less, a Simple Mail Transfer Protocol (SMTP)-based wire-

less electronic-mail package. According to the Irving. Texas, company, Calypso Wireless consists of a client that sends and receives E-mail over a wireless network and a gateway that runs as a java application on the server. The gateway exchanges information with an SMTP or Post Office Protocol mail server and compresses the client-requested information into as few packets as pos sible before sending informa

tion back to the client. The Calypso Wireless client costs \$179.95. The gateway costs \$4.995 Micro Computer Syst (072) 650-1624

ARC SYSTEMS AND DEVELOPMENT LTD. has announced LAN Li-

censer 3, a metering application that detects unrevistered software on a network

According to the Andover. Mass., company, users can instruct the application to close inactive software, provide mobile user licensing and restrict access to applications based on criteria such as user name, machine or time. A Hypertext Markup Language user interface provides load-balanc-ing capabilities and dynamic

LAN Licenser 3 costs \$2,245 for 100 users. ABC Systems and Develope (978) 470-3999



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help IT deploy a range of valueadded services, such as distance learning applications in our case." Scott said. Oreson State is deploying Microsoft Exchange ross the Corvallis campus Eric Armura, editor of the Electronic Mail and Messaging Systems" newsletter in Washington, said the growing reliance on Internet mail will drive the need for BOM-enabled

Internet mail is like putting cash in the mail." Amum said. 'It may get through or get lost, and you can't prove it either wax." BOM can add the reliability many sites are looking for be

Many users said 80M is a good idea, but some questioned whether it is merely an attempt by the vendors involved to sell more software. Jerry Johnson, a senior policy analyst for the for the companies involved to improve the interoperability of their respective message queuing products before he will consider BOM seriously.

'At this point, it's a where'sthe beef kind of thing," Johnson Ken Shand, business man ager of messaging at Intel. said the long-term goal is to b an application program inter-face that would allow interoperability between me oriented middleware and BQM enabled products from dispa

aree petroleum company said BQM could be used to tie toher back-office applications or as an alternative to electronic data interchange applications when collaborating with trading partners. But she said she is

concerned that BQM will result in a central hub from which all a network traffic jam. []

w're backing multiple horses.

omers for a video teleph

BOM spec to boost mail reliability Management products

▶ Tivoli modules support MCIS and SuiteSpot

By Clare Hance Hone Kone IZM'S SYSTEMS manag

subsidiary, Tivoli Systems. Inc. has announced the general availability of two application gement modules - one to help manage Microsoft Corp.'s Commercial Internet System (MCIS) and the other to handle Netscape Communica-tions Corp.'s SuiteSpot family of

The company made the an nouncement at its Planet Timbi rence for the Ana-Pacific gion held in Singapore. The addition of Tivoli Man ment (TME

o) modules for MCIS and iteSpot brings the number of nagement modules to 16 or Service in Hong Kong.

ry, said Martin Nesth, senior vice president of Tivoli's prod-"Our coal is to have no to 40 plications management mod es by the end of this year. Neath said in an interview. "We

aim to cover all high-volume sercial applicat Tivoli already is shipping modules to manage pro such as SAP AG's R/3 high end applications suite. eries and the major rela tional databases. But Neath said Tivoli is working on modules to handle Microsoft's Each messaging software and high end application suites from The Buan Co. and PeopleSoft, Inc. U

Howey writes for the IDG News

Service providers seek quicker access

ine many smaller systems - is expensive, and higher costs uld be passed to users. One user said he already is concerned about reliability and nce of semice provider

"I still can't get to anyone anytime Jusing E-mailt, and I don't want that to worsen," said I. P. Scarisbrick, director of network access services at Beth Israel Medical Center in New York. "It could get serious if [service provideral don't take this matter seriously." Scarisbrick plans to attend a gigabit router seminar to learn more about issues surrounding the products and their

"This becomes a key terror as re and more users depend on the Web for things-like electronic merce" said Rob McKenna. vice president of global network engineering at Sumitomo Bank Capital Markets, Inc. in New York, "We don't rely on the 'net too much. Therefore, the impact on us would be minimal."

Male is on the way but no one is

sure when it will arrive. Cisco Systems, Inc. is working on a system called the Gigabit Switch Router which is in beta testing. Start-up Juniper Networks is said to be building something similar, but the company is tight-lipped about the project, Other small start-ups are in the mix. Ascend Communications, Inc. also is working on high-end mater technology

tion," Taffel said, "That's why

We buy big from Cisco and Ascend and just took an equity stake in Juniper."[]

ISDN users dial up German video phone By Margret Johnston Report

Taffel wants megarouters in the UUnet network by oest fall. 'If they don't appear in time. won't be able to stay in front of the growth curve, and that will lead to (network) conges-

Cisco acquisition

cace dystems, inc. complet-ad the acquisition of integrat-ed Network Corp.'s Deger Technologies, inc. subsidiary in Seston. In the Stu4,5 mil-lion deal, Clace acquired the company's XDSL products and intellectual property, per-

available in mid-November. The German telecommunicaons company previewed the vice, called T-View, last week at IFA, the inter-

on. Deutsche Telek e device is as easy to operate as a regular telephone and an ment over PC-based of ferings in the area of video com The T-View phone look

similar to a regular integrated Services Digital Network (ISDN) desk phone but has a color LCD screen and ministure camera ched across the top by a

The software supports the Intional Telecon Union's H.323 specification for transmitting audio, video and data over TCP/IP. Ethernet LANs and the Interpet.

mission rate results in images that are slightly delayed and

picked up. The image qual ing both ISDN channels, but

that increases the cost of the DAUTSCHE TELEKOM AG IS taking orders from its ISDN with a s.s.in, acreen that will be Demand for ISDN service is ng - about 20% since nuary to 6.3 million ISDN els in operation, accord-

ing to Deutsche Telekops, More than half the company's ISDN holds company of

The introductory price of th T-View phone is about \$550 for one unit, but Deutsche Telekom officials said that price would go up by about 25% from Januar The phones also can be rented.

ALSO ON VIEW

Other products and services displayed and demonstrated at IFA include the following:

*Oracle Corp. in Redwood ores, Calif., and the German all-news broadcaster N-TV an nounced availability of a service ed Business Information on and, simed at corporations with specific video needs. The

Mahwah, N.J., displayed a ste system with Internet access cality. The MD-X8H syste ts users hook up their PC to they stereo, tune in to Internet audio programs and record recorder. The MD-X8H will be available in Germany later this

enten writes for the IDG News Service in Munich

rooath. C

Start-up eyes access via 'net

CONTINUED FROM PAGE 49 nt for electronic co erce at large enterprises that need to give remote users access

to traffic on their LAN. Merriman said the future of VPN as a technology isn't guar-anteed, and neither is Aventai's role. "It's a small, emerging my, and we're just waiti for a critical mass of users," he

Pricing for VPN 2.5 starts at \$7.995 for as server conss, or approximately 13

HP cuts prices

s-Packard Co. las and HP AdvanceStack
th BooT. The Advance1 rollnes-T Hub 16U is a WITH DISTRIBUTED APPLICATIONS, A PROBLEM IS ONLY

A PROBLEM IF YOU DON'T SEE IT COMING



!Candle

Briefs R/3 users fear losing integration

► SAP struggles to break R/3 into components

By Randy Weston

USERS SAID THEY WILL DESS UP more flexible architecture planned for SAP AG's R/s if it means losing the core integration that made the business process sulomation system attractive in the first place At its recent user group con-

ference, SAP unveiled details of R/1 4.0, due for release by year's end. Unlike previous additions to the R/s roster, the new functions won't be integrated into the core applications, but rather sold as components that can be upgraded and installed independent from the rest of R/1.

R/s until now has been sold as a tightly integrated package of human resources, financial and

manufacturing modules, a selling point that won over many ne 500 companies. "SAP's success in the market

is clearly an indication that users have voted for integra-tion." said Clare Gillan, an anahist at International Data Corp. in Framingham, Mass. "IT peo-ple realize there is a trade-off of easy installation for better busi-

At last year's user confe SAP officials announced that R/s would be broken up into components, starting with the nan resources module in Version 4.0. Any new functions would be brought into the R/3 fold as components (see chart page 621.



ns like we do, you need to preserve it Secrets to SAP success

Audio/data conferencing becomes affordable

By Matt Humblen

COMPANIES ITCHING to US the Internet for staff conferences clearly see potential benefits: remote training sessions don't need travel budgets, and collaborative sest come together quickly.

That's the theory But existing PC-based technology can be too expensive or

cumbernome. According analysts any workable solutions for audio conferences and real-time data sharing can cost compa nies hundreds of thousands

of dollars to set up and adworks. OnLive Technologies. Inc. in Sunnyvale, Calif., has released LiveMeeting Suite and its Audio Conference Serves, soft ware products that users said make audio and data conference ing affordable for conferences of up to 225 people — with tele phone-quality sound.

LiveMeeting Suite is server

software that integrates live

Audio, page 65

Experienced users give newbies tips

By Johanna Ambrosio

ORIANDO, FIA. PROPER WHO came to the re-

cent SAP user group meeting to get advice weren't disappointed. Whether seated at presents tions and arminars or hudd in informal hallway chats and off-the-cuff conversations, cusomers who have successfully implemented the SAP suite were happy to pass along tips to

those who are just beginning The hints carried common themes securing high-level ex-ecutive support and end-user buy-in; building an implementation team that features the best and brightest information

technology people; and sparking ional revame ti can support new business goals The most daunting prowith SAP impl

"have nothing to do with tech-nology," said keynote speaker Dr. Michael Hammer, president

You can get all the technical issues right, and you will still die." said the Cambridge, Mass. based Hammer A Hammer survey of SAP

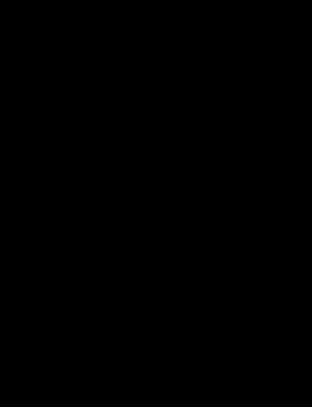
users found that the biggest problems included a lack of widespread readiness to adopt SAP R/s, which is a suite of financial and manufacturing software applications that requires virtually all business proresers to be changed.

If that work hasn't taken slace, and if all ports of the busi ness aren't open to changing their processes, it is impossible to successfully implement R/3. the survey found.

OLUTE MUST

Another essential ingredient is tive leadership — top guns who are ready and willing to lead the charge to examine and change as many processes as needed, Hammer said. "The No. 1 error [in SAP instal is failure to invest adequately in

PAYING TO PLAY



Software

Databases : Davelerment : Operation Systems

Briefs

Oracle DSS bits Unit

ew OLAP tool

PAYING TO PLAY

IS managers expect to spend \$303 billion on services in 2002, up from today's \$149 billion. 46% will be for help setting up distributed applications and networks: 31% will be spent on mainframerelated services; and 1196 will go to Internet projects.

R/3 users fear losing integration

➤ SAP struggles to break R/3 into components

By Randy Western

USERS SALO THEY WILL DOSS UP a more flexible architecture planned for SAP AG's R/s af at means losing the core integration that made the business protive in the first place.

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R/3 users, page 62



Audio/data conferencing Secrets to SAP success becomes affordable Experienced users give newbies tips

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dedicated net-



make audio and data conferencing affordable for conferences of up to 225 people - with telephone-quality sound LiveMeeting Suite is server software that integrates live



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users found that the biggest problems included a lack of widespread readiness to adop SAP R/s, which is a sume of financial and manufacturing software applications that requires virtually all business processes to be changed.

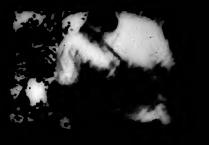
If that work basn't taken place, and if all parts of the business aren't open to changing their processes, it is impossil to successfully implement R/3. the survey found

AN ABSOLUTE MUST Another essential ingredient is executive leadership - top guns

who are ready and willing to lead the charge to examine and change as many processes as needed. Hammer said. 'The No. 1 error [in SAP installations]

Experienced users, page 62





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Corel, Lotus heat up Java battle

▶ Competition from Lotus' Kona forces Corel to rework Office for Iava

By Gordon Mah Ung

COREL CORP.'s announcement last month that it would put its Office for lava on a diet, change the name of the product and refocus its approach to entering the enterprise was the result of a barsh reality check analysts

The Ottawa-based company was the first major developer to release a beta version of a productivity suite. But its popular WordPerfect Suste in Java was considered too "chubby" for the thin-client market and too slow

overali. Instead, Corel said st would develop products based on groupware, electronic mail and multiuser system software [CW: Aug. 25].

BATTLE STATIONS Corel's shift sets up a lava-

hased battle next year with Lotus Development Corp. in Cambridge, Mass. Lotus has been developing a suite of Java-based productivity applets, codenamed Kona, to be aimed initrally at companies that have test-only terminals and are con-

sidering moving to network

Kona will add functionality. such as basic word processing, presentation graphics and spreadsheets, to "green screen" text-based terminals. Lotus will target power users with its SmartSuite office product.

Analysts said the competitive pressure Lotus put on Corel's lava-based efforts forced a stra tegic change Lotus' development of Kona is one of the main reasons Corel backed off" its release of a Java-based Office state, said Evan Quinn, an analyst at Inter

national Data Corp. in Mouncided they didn't want to go into Corel "could have looked at

enabled browser or thin client

and continue to develop its Of-

Corel also hopes to use the

general release with a product they didn't want to support the other office swites and decided they weren't competitive. said Army Wohl, editor of industry newsletter "TrendsLetter" in

HEW STRATEGY

Corel's enterprise strategy is to offer its Remagen technology. which lets multiple users access copies of the WordPerfect Suite or other Windows applications from a server through a lava-

Java expertise gained in the tun View Calif "I think they do. aborted Office for Java in an upcoming product code-named Much like Kona. Alta will offer a browser user interface

that combines E-mail, informa tion management and produc tivity applications on a clean desktop. Alta is scheduled to be released next spring or summer and will contain 70% of the code written for Office for lava. Corel

officials said Quinn said Corel's early em berance for Java was also good for the then-nascent Java world. Even though this won't work for them, there's a lot of people who jumped into the [lava] ring because a major player like Corel was willing to do it."

Quann said. O

R/3 users fear losing integration

But SAP officials said break ing apart the financial and logis tics pieces of R/3 is proving difficult. And they are heeding users' calls to retain integration

Officials at the German company which has U.S. headquarters in Wayne. Pa., insisted that tight coupling won't be lost in the breakup of R/3. 'The directive from users is you have to keep integration," said Udo Edel mann, director of release strate gy at SAP. 'This is the core value we supply, and we have to keep the bar high. We will main tain integration

For now, logistics and finan cuals will remain in one piece but will be separated in the next major release. SAP officials wouldn't say when it will ship.

 Investment controlling Treasury menegement . Self-auditing · Joint venture accounting

Manufacturino Sales configuration engine Product data management · Web-based catalog and purchase requisition system

And users such as beaut equipment maker Deere & Co. in Moline, Ill., said if they have to choose, they will gladly take integration over the more flexition as much with administra ble component based systems

PRODUCTS

When you have large vol umes of transactions like we do. you need to preserve integra-

non," said Bob Towner, Deere's SAP project manager for financial systems You don't need that integra-

tive tasks like human resources but when you get into manufac turing systems with hundreds of transactions, you have to have it." Towner said. ()

Experienced users offer secrets to SAP success

CONTINUED FROM PAGE 50 change management. You need to change the compensation

scheme to reward people" for changing their job responsibilities and functions, he added. Dr. Edith Martin, chief informatton officer at Eastman Kodak Co. in Rochester, N.Y., said it is easier to meet the demands of a SAP installation by training internal IT people rath-

er than bringing in outsiders. 'You have to have the right people at the right time - the best you've got," Martin said. A SAP umplementation "defines your business for the long term it's not a project for the B team."

Robert Wooden, manager of the busmess system support group

at Cultor Food Science, Inc. in New York, said it is important to be committed to making decisions - and resolving disputes during implementation — in a short time to keep the process

moving along. 'Our goal was to make all de cisions within 48 hours," Wood en said. He added that sensor managers adopted the same schedule. Cultor, a maker of food additives and other chemicals implemented a multiplemodule, 170-user SAP system in six months

WHO DOES WHAT? Because SAP software chances

business processes so funda mentally, there may well be cer tain processes - new or old that don't have anyone resu ble for them. Wooden said. "Our No. 1 issue was organiza tional and training issues," he

Two things Wooden said be wishes he could have done differently are having a bigger project team from the start so people wouldn't have to double up quite so much, and to communicate better with end users We did not do nearly enough communication," he said. Writ ing a weekly newsletter about the installation, for example,

"Prepare senior management for the magnitude of the real investment.

Present the total nicture." - Edith Martin.

Eastman Kodak might improve end-user acceptance of the project. Martin had another piece of

advice. "Prepare senior manment for the magnitude of the real investment. Present the total picture." so top executives understand the real and intansihie costs of the installation, she said. Only by knowing what the SAP project will mean for staffing and changes to business processes can they be effective leaders, she said.

"It's not an easy journey. But for the IS community there's never been such a rich opportunity to contribute to the bottom line," Martin said. O

Smart business decisions. Even smarter investment.

A recent International Data Corporation (IDC) study of organizations that have implemented data warehouses reveals an average three-year Return on lowestment of 4019.1

And you'll find there's no better choice for reaping similar rewards than the SAS Data Warehouse Here's what two companies featured in the IDC study have to say:

LTV Steel Company ROI=16,995%

As the hird largest steel operator in the U.S. they've been using SAS software for data warehousing since long before the term was coined. According to Senior Statistician Robert Schutt, "SAS software is "The element of out data warehousing softwon, to beat everything else for data retrieval" and it would have cost us maybe a talf million dollars to bring something else in for a data warehousing system."

Phillips Petroleum Company Norway ROI=151%

As a loader in the high-claikes oil and gas industry. Phillips Perinton miles on its SAS Data Welleron on a SAS Data Welleron of all the schicially Saston involved in the day operation of all the schicially Saston involved in the day operation of all processing self-some design and redesign of our schickes. This boxeledge tells us which preventive amounts are not effective for increasing venerue and profitability. Quale sample, our SAS Data Wellerone helps to endour involves the saste mover.

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Audio, data conferencing

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wice with data conferences using a wide prognized standard for data sharing. It incorporates Microsoft Corp's Nodeverting and can be used with another popular client, Intel Corp's ProSlare, to enable groups to collaborate on documents and talk and edit in real time. Authority of the control of the control of the observed of the control of the control but conference Server is designed to enhancie audio quality for users with 28.5K bit/sec. modern or faster Internet con-

bit/sec. modern or faster Internet connections.

LiveMeeting Suite costs \$5,819 for 15

users and up to \$a3,080 for 100 users.
The Audio Confevence Server starts at \$895 for five users and goes up to \$19,995 for a59 users.
Regional Internet service provider Internet Operations Center, Inc., has been

Regional Internet service provider Internet Operations Center, Inc., has been using both products for about a month, testing them with audio and data conferences of up to 60 people.

AN IMPROVEMENT
Doug Shuck, director of engineering at

the Southfield, Mich., company, said the suite is art improvement over NetMeeting and other products that make it "tough to pass the baton around" for who controls the meeting. With other products he has tested, con-

ferences were "really chaotic," Shuck said. OnLive lets him dictate who controls a meeting and allows the leader to shut off "the unrulies," he said. Shuck said it also offers password protection so a leader can control who has access to a

a needing.

Testing the OnLive software are the fol-

lowing two users:

Instill Corp. in Palo Alto, Calif., is about to begin using Livebleeting Suite to provide a business collaboration tool for users to conduct online conferences and

PUBA TECHNOLOGY, INC. has announced intellisyne, software for PC-to-PC personal information manager (PIM) synchronization.

According to officials at the San Jose, Calif., company, the Windows 95 application provides PCt-nization of PIM data such as "to de" lists or calendars. It is for users whose companies have standardized on a PIM that is different from the users.

Intellisync supports Microsoft Corp.'s Outlook 97 and Lotus Development Corp.'s Lotus Organizer 97. A version with additional PIM support will be available by year's end.

Intellisync costs \$49.95. Pums Tachnology (408) 321-7650 share applications. The company is providing electronic-commerce services for supply-chain applications in the food service industry and hopes to use the software to connect do salesmood, a prokementing of a

man said. b •EF Education in Stockholm, Sweden,

uses the Audio Conference Server to connect 13,000 part-time English-language teachers to students over the Internet. Analyst Rob Enderle at Giga Information Group in Santa Clara, Calif, said the software could help trainers who need to

talk to large numbers in Internet classrooms. But it also could be valuable for a meeting of stockholders or a distributed board of directors.

The market for such products is in the

"tens of millions of dollars," but so far is dominated by Intel and Picture lel Corp. in Andover, Mass., with much more entensive products. Enderle said.

in Andover, Mass., with much more enpensive products, Enderle said.

The biggest obstacle Onlive faces in marketing in product is that major corporations will find it "too cheep," Enderle said. "I'm serious about that. Peaple think you need to spend realizes to accomplish what this does, and they might think this is a sty, but it's not." O

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O require to parket some an industries to regard to describe it for experience in the







Customers can submit their orders directly on the Web, then

GiftFinder sorte through adrede of items to defiver a

e Sherper Image Web elle, built in WebObjecte softwere, gives stomers severel ways to shop.

How The Sharper Image is making over 1,000,000 visitors a day feel like they own the place.

For The Sharper Image, the Web presented an exciting opportunity to translate the success of its intriguing, gadget-filled catalogs into a cost-effective new medium capable of reaching millions. But how to do it and keep its brand intact?

Using WebObjects' moute-inning development publishment and probable brainess objects. The Sharper Image was alse to create a dynamic colline catting in less than 30 days. With casting in less than 30 days. With casting intens stored as expante objects. With casting intens stored as expante objects. With casting intens stored as expante objects in other cases, automatic. Next they used WebObjects' to develop the Gilffriders which generates a customized casting than narrows the last of proposition electricons. The results have been reached to the control of the control of the store of the control of t

How can your business match these results? With tools that allow you to develop once and publish anywhere. With prebuilt objects that slash development time. With an environment that leverages your legacy systems to new heights of productivity. With WebObiects of course.

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Briefs



Shaping a new legacy

NORWEST MORTGAGS, INC. is betting its future on legacy applications.

But the lending giant is using a combination of modern programming tools, including World Wide Web-to-host connectating world Wide Web-to-host connectations.

rity, Java applets and object-oriented chnology, to pull the tried-and-true pro-nus into modern times.

We want the mainframe

just like in the Unix world," said Wil Adamowski It., chief tech nology officer at Norwest in Des Moines, Iowa. "And the things that are really usly about nframe applications, we are rinning

Although most new programming will center around Java, Norwest's crucial loan processing system running on a mainframe is the linchpin for much of

At the same time, Norwest is trying t tegrate a loan processing system from ential Home Mortgage, which Nor

Prudential Home noorgage, was ever west purchased last year. Key to these efforts is Jacada, a tool from Chent-Server Technologies. Inc. in Atlanta that will separate the user interface from the business logic via Java.

MAINFRAME
APPLICATIONS

"Instead of migrating two
legacy applications to our
future architecture, we are ting one to the other," Adamousk said. "With Jacada, we can come close to the work environment one group of us-ers is familiar with without changing the

back-end code Jacada sits on a Web server and can convert host-based data into Java applets, which are then run on Java clients. That will let Norwest put one face on the two

Postal Service plans to deploy mobile scanners

By Kim Girard

KEEPING PACE WITH Federal Express Corp. and United Parcel Service of America, Inc., the U.S. Postal Service is buying speed up package delivery and

nprove tracking. Starting this fall, postal workers will begin testing handheld devices they can use to scan bar codes when they are making deliveries. The mobile scanners are from Charlotte, N.C.-based Hand Held Products. Each data collection device weighs 12 inces and has 16M bytes of RAM and a large keyped that

can be used by employees wearto high-and systems ing gloves. SYSTEM ROLLOUT Lockheed Martin Corp., in



Owego, N.Y., was awarded a \$218 million, six-year contract to install the package-tracking and proof-of-delivery system at 38,212 post office branches nationwide. The installation ould be completed by the end of next year.

"I think [the project] is part tech upgrade, but it's a 'Keep up with the Joneses' type thing. You

from their resellers is easier to Despite the hype surrounding the advantages of direct sales, Hildy Stover, vice president of information systems at Boston-based Arabella Mutual Insur-ance Co., said she remains un-

DIRECT SALES

By April Jacobs

DESPITE RECENT moves by PC vendors such as Compaq Com-puter Corp., IBM and Packard

Bell NEC, Inc. to provide more

direct sales channels, many cor-

potate buyers say they aren't

ready to shop for computers

themselves. They say the built

in service and support they get

Proponents of direct sellers said their advantages include a quicker availability of product. generally lower prices and a direct connection to the manufacturer, which can custom-build

and configure PCs to a buyer's "We buy through (a syst integrator) that does a lot of the tion work for us, and we tsource more than that, including the service and maintenance of computers," Stover

wer echoed nine corporate necutives interviewed over the Corporate buyers, page 70



New Zip drives help company clear storage decks

By Nancy Dillon NETWORK RESPONSE delays

caused by large graphics files used to be a serious problem at Landor Associates, a consult and graphics design firm in San But according to Rob Pon

a technology specialist at Lan-doc, increased companywide use of lax and Zip removable desktop drives from Roy 11tah. based Iomega Corp. has been a

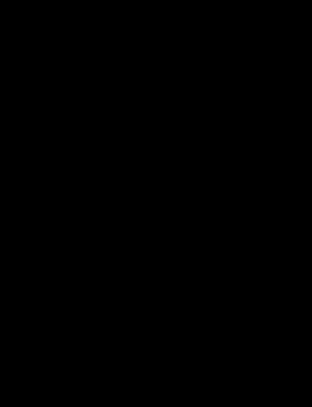
big help. "Our network has only 4G bytes for transferring files. Without removable storage to more graphics files between computers, I would spend my whole day sending E-mail, ask-ing people to clean up network drop-boxes," Pomon said.

Pomon plans to test two additions to fornega's line of Zip products, the ZipPius and a ook version of the original Zip drive, both slated to be an nounced the week of Sept. 21 They will use lomes tooM. byte 3.5 in. Zip disks.

The ZipPlus will work with

either SCSI or parallel connections, making it computible with PCs and Macintoshes. It will cost \$199.95 and is due to ship

It has a power supply that weight 4 ounces, about a quar-ter the weight of the original Zip



Servers & PCs

Large Systems . Workstations . Pertable Computing

Briefs

HiNote prices cut

Digital Equipment Corp. has slashed the price of its busi ss-class Pentium HiNote VPsoo notebooks up to 12.4%to make way for new models. Price cuts include the following: Pricing for the HiNote VP560 drops from \$2,199 to \$1,999. Pricing for the HiNote VP56; drops from \$2,999 to \$2,699. And pricing for the HI-Note VPS75 drops from \$3,000

Sharp to go for CE

Sharp Corp. will begin selli sub-\$1,000 Windows CE device in the U.S. by year's end, officials told the IDG News Service. Osaka, Japan-based Sharp previously sold only its prietary Zaurus family of onal digital assistants. An alysts consider the Zaurus devices the leading competitors

Aviion for warehouses

Data General Corp. will target the retail, health care, telecomextions and manufacturing markets with a data ware se program based on its Avlien AV 20000 Non-Uni-form Memory Access server DG, in Westboro, Mass., will ms that integrate data

1997 unit shipments of all disk drives from PCs to high-end systems

Total units: 106 million



Java is the firm's programming future, but mainframes will still hold an important piece

Shaping a new legacy

NORWIST MORTGAGE, INC. IS bettime its future on legacy applications

But the lending giant is using a combination of modern programming tools, in cluding World Wide Web-to-host connec-

tivity. Java applets and object-opented technology, to pull the tried and true programs into modern times

We want the mainframe to be a collection of services just like in the Unix world," said William

Adamowski Jr., chief technology officer at Norwest in Des Moines, Iowa, "And the things that are really ugly about mainframe applications, we are ripping out

Although (nost new programming will center around Java. Norwest's crucul loan processing system running on a mainframe is the linchpin for much of

At the same time. Norwest is trying to integrate a loan processing system from Prudential Home Mortgage, which Nor

west purchased law year Key to these efforts is Jacada, a tool from Client Server Technologies. Inc. in Atlanta that will separate the user inter

face from the business logic via lava "Instead of magrating two legacy applications to our future architecture, we are converting one to the other." Adamowski said. "With Jacada, we can come close to the work environment one group of as-

ers is familiar with without changing the Jacada sits on a Web server and can convert host-based data into lava applets. which are then run on Java clients. That will let Norwest put one face on the two

Postal Service DIRECT SALES

plans to deploy mobile scanners

By Kim Girard DESPITE BECENT moves by PC

KEEPING PACE WITH Federal puter Corp. IBM and Packard Express Corp. and United Parcel Bell NEC, Inc. to provide more Service of America, Inc., the direct sales channels, many one. U.S. Postal Service is buying pointe buyers say they aren't 300,000 handheld scanners to ready to shop for computers speed up package delivery and themselves. They say the builtimprove tracking in service and support they get Starting this fall, postal work from their resellers is easier to ers will begin testing handheld deal with Despite the hype surrounding

devices they can use to scan bar codes when they are making deliveries. The mobile scanners are from Charlotte, N.C.-based Hand Held Products. Each data collection device weighs 12 ounces and has 16M bytes of RAM and a large keypad that can be used by employees wearing gloves.

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Corporate buyers stand by their resellers

Nerwest, page 70



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It has a power supply that weighs 4 ounces, about a quarter the weight of the original Zip Dip drives, page 77



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the Problem 6300 and 7000 are the newest scalable additions to our line and establish solid enterprise capabilities. Each offers the highest levels of availability for 7x 24 computing.

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HE FUTURE ND STEEL.

Corporate buyers stand by their resellers

past several weeks who now buy through ellers. They said they like being able to go to one place to pick from many brands of PCs and peripherals, as well as service, support and timely price options.

"We find that this is more cost-effective and keeps the people we have inter-nally more focused on what's important to us, which is keeping critical systems up and running and testing out new tech-

nology." Stover said. "It's a mixed bag," said Jim Prevo, chief information officer at Green Mountain Coffee Roasters, Inc. in Waterbury. Vt. He said he likes the idea of being able to order outside of a standard config tion, but he doesn't want to have to shop several places for third-party products such as modems and monitors, which di-rect wenders offer in limited variety.

"And even though direct vendors offer service and support, it may not be as comprehensive," said Prevo, who mainly

uses Compaq desktops. "Certainly, the direct vendors do offer support, but it may not be enough for very large enterprise customers who need comprehensive services and maintenance," said Jennifer Munson, an ana-

lyst at Workgroup Strategic Service, Inc.

in Portsmouth, N.H. And although analysts say direct ven dors such as Dell Computer Corp. can react more quickly to falling component prices with lower PC prices and don't

cuts by individual desktop vendors -

enough that they don't worry they may be

The direct vendors are offering service and support, but not to the extent that HP and Compaq and IBM [do]. But it is adequate for small to midsize businesses," Munson added. But direct vendors do have other adhave the costs of selling through the channel, both Prevo and Stover said their rantages. For example, Dell in Round resellers are quick to respond to price

Rock, Texas, typically ships PCs to customers within three days of receiving an order, and vendors such as Compag in

Houston take up to two weeks to fulfill orders they receive through the chang Compaq has committed to reducing that time lag significantly and has annou a build-to-order program, but much of its line is still built based on forecasts.

"We go through a [reseller] and but hardware, and I don't see a noticeable difference on our end" in areas such as price, hardware, performance and support, said Mike Bennett, a program analyst at Boston Scientific Corp. in Natick, Mass. But, because PC buying is easily outsourced. "it is just one less thing we have to worry about," Bennett said.

Norwest creates thoroughly modern mainframe

mainframe applications, then shut down

the Prudential box without affecting users' performance. More user sites are turning to tools such as Jacada, which promise to let users hold on to reliable mainframe back-end processing while providing smoother access to and interaction with mainframe data. The tools can help users avoid costly migrations and reprogram ming projects for older applications, and

they don't alter the host-based code,

In Norwest's case, its plans to implement Java technology as its enterprise architecture made lacada a strong candidate. "Jacada is a good first pass. Now we can start dealing with legacy systems and take a hard look at what to migrate and how we will trade object services on the back end," Adamowski said.

Next, Norwest plans to completely reengineer its user interface for simple point and click access to back-end loan procedures, add workflow and wrap its

CICS transactions into Java objects. That will give the 7,000 users in the tion smoother access to important data and give mainframers in the information systems department room to spread their wines. IS staffers "are starting to understand

that we want to keep the mainframe, but this lets them get a chance to get into more object-oriented work, too," said Dennis Wilson, a systems architect at Norwest (1)

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messaging standards Netscape helped create. The

result? A full service intranet that extends seamlessly



Zip drives clear storage decks

drive's supply. New proprietary firmware will speed up basic command functions for Windows os users, and five multimedia software titles will be bundled with the drive.

Pomon said the ZipPlus' performance enhancements are most important to him. 'The Mac/PC option is useful beuse we have about 80% Macs and 20% PCs. Now if a PC drops out, we will be able to use the drive somewhere else Pomon said. "The scaled-down power supply is also great because it won't crowd surface space on power strips as

The notebook version of the Zip will weigh 6.35 ounces, less than half the weight of the original Zip drive. It will cost \$200 and also is due in October. Different versions will be sold to fit eight drives play into an ongoing

notebook brands, inch those from IBM, Con Computer Corp. and Apple Computer, Inc. Fera Yale, an analyst at

Dataquest in San Jose, Calif., said the announcents from lomega are significant for two reasons. First. ZinPlus will elim the need to manage differ different computer cables. And second, the new Zip

war over which drive technology will replace the 1.44M-byte floppy. We predict that ship

of high-capacity ives will exceed those of 1.44M-byte floppies world wide in the year accor. We are not sure which drive will win," Yale said.

High-capacity drive co tenders are divided into two est Technology, Inc. in

rd arena, according to Data quest. In the opposing camp are three SuperDisk — also called LS-120 — vendors that support backward compatibility with the 144M-byte flooppy OR Technology Ltd. in Oxfordshire, England, Mitsupishi Electric Corp. in Tokyo and Matsu

Ltd. in Matsayama, Japan. SuperDisk drives use 120 M-byte disks rom Imation Enterprises Corp. in Oak dale. Minn., that also work in LAAM-byte

In May, a removable storage re from International Data Corp. in Pramingham, Mass., stated that loosega sold more than 4 million Zip drives last year. lomega held 89% market share for the same year, and SyQuest held 8%. Cl

Postal Service to deploy mobile scanners

can't fall behind in the package delivery business," said Shannon Worthen, an analyst at Prost & Sullivan, a consultancy in Mountain View, Calif. Worthen said such companies become 40% to 60% more efficient after they switch to a bar-

code-based tracking system. · The handheld package-tracking sys-tem uses bright lasers, so workers can easily scan packages outdoors, said Julie Rios, package information services manager for the Postal Service. "In direct nlight, it's hard to see whether you

have a scanner on the bar code," she said. "With these scanners, you can scan a lot quicker." Parcel delivery time and information

will be automatically stored on the scanner and can be downloaded later to the Postal Service's, host system. Workers can set the scanner in a docking station that transfers data via modern to a database in San Mateo, Calif. All post office branches will have access to that infor

Customers can use the system to verify

all deliveries for Express Mail, Pri Mail, purcels, international shipments and certified and registered mail. Rio said the Postal Service is developing Desktop Post Office, a software application that smaller businesses can use to

Meanwhile, MCI Communicat Corp. in Washington is revamping the Postal Service network to a new Internetbased system, said George Wright, an in-formation systems analyst contracted by the Postal Service, Within the network, 28,000 smaller locations dial out via tollfree numbers to host processors. The Postal Service's 1,000 largest offices use

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Managing



e's what you'll find in

Losing good people is Headache No. 1 for many IS organizations. Here are some ways to cut turnover without breaking the

hank.



urvey after survey has shown that pay isn't the biggest reason information systems professionals change jobs. Assuming they're getting fair wages, the quality of their jobs - and of their bosses - is what makes people stick around or leave. Here are some of the cost-effective ways managers are keeping scarce IS talent happy at home.

Give them room: Bigger cubicles - 72 sq. ft., to be exact, roughly the size of a small car - are costeffective perks at Huntington Service Co., the IS and operations arm of Huntington Bancshares, Inc., a bank holding company in Columbus, Ohio. "We hire people right out of college at \$35,000," President Rick Sellers says. "and it doesn't take that long before you're paying the people \$50,000 to 60,000." Given those pay scales, it doesn't cost that much to "give them an extra 8 to 10 sq. ft. of floor space."

Stop the insanity: Petty rules can greatly hurt morale, Sellers says. Rather than put out only small stashes of pens, paper and sta-ples to prevent theft, he opened the supply closet so people could take what they needed. "If we don't trust these people" not to steal supplies, he says, "they shouldn't be working for us." That helped morale, and there has been no sign of pilferage,



"The performance appraisal pro-cess is often abominable," says

Ronald LeBleu, president of

Software People Concepts, Inc., a

Monroe, Conn., consulting fir

Rather than being an uncomfortab ordeal for both manager and employ-er, he says, it should be a place for

crazy about your company. Track them down six months later and ask them why they really left, LeBleu advises. If they're happy in their new jobs, you'll get honest feedback. If they're unhappy, you might be able to hire them

Put them to work fast: The first six weeks are critical to making new people feel like they're part of the team, Leftieu says. Get new hires up and running on the hot projects you promised them before they turn around and quit. A real turn off, he says, is when a new employee comes to work to find his cube doesn't even have a PC

talking about career paths within the Squeeze in training: It's often harder to find time for training than to find the money for it.

Sellers hired a training coordinator to schedule training during slack time and brought trainers on site to

company Do exit interviews — later: Inter-viewing people as they leave will only give you polite generalities, not what actually drove them

Rick Sellers at Huntington Service: Petty rules can burt morale. Rather than out out only small stashes of pens, paper and stanles to prevent theft.

he opened the supply closet so people could take what they peeded.

Update year slife, pensione.

The embyoes pensione of the pensione pensione of the pensione of

Measure managers, on review:

Because timely performance reviews are so important, measure
IS managers on how well they
do reviews and whether they're done
ntime, recommends Bill Huffaruler,
director of the Information Management Forum, an Allanta-based One
permet Forum, an Allanta-based one
your executives.



One parks, not cash: Relatively inexpressive rewards can demandially increase job satisfaction, Foote says. Examples include bickets to sporting events, a day of goff on a championship over the family weekend at a resort rewards a spouse and children for the long hours an employee has worked and boots the employee's stature in their eyes.

Hie more carefully: One majoe is because they like their job is because they like their co-workers. But many employers focus on technical skills rather than the-harder-to-identify personality traits that determine whether someone will fit into the corporate culture. Jeff Explan, director of strategic masketing at International Network Services, a Sunnyvale, Calif., network integration and management services firm, admits that his employer sometimes focuses too much on technical akilis instead of on personality traits such as whether recruits would be confortable in an environment of constant change. If they aren't, he says, it leads to rapid turnover.



of cat out of the ware Micromansign mid and lower-ived managers is a surfice way to drive people out of your company, says L. Paul Oustleen, CEO of Ouellene & Associates Consisting, Ipc. in Bedford, N.H. "The first time an employed sees an opportunity where their value is going to be respected, they are goine," he says. the recommends catabilishing a vision for what you want to do. Initing people you trust and pring them broad auhorshy to recently your vision.

The Cet coordinated: Many 15 projects are so disroganized that employees "often in the case of the cas

Tacommunicate, communicate:
15 professionals want to
know how their company is
doing, how their IS group is
doing and whether their manager has
a strategic vision. For example, CocaCola Enterprises, Inc. in Atlanta bolds

quarterly staff meetings where everyone can pepper Rick Engam, wee president of 15, with questions about everything from market share to pay issues. The fact that he answers all the questions without preparation makes employees trust him more and thus makes them more likely to star, says Allison McMahon, manager of human resources for he 15 group.

Offer flexisme, telecommusing: That's one of the "lowcost, no-cost" retention strategies being considered at Coca-Cola, McMahon says. "If we can offer a four-day, to-hour [per day work week] to an individual and the next employer can't ... that belps us retain" staff.



Aniga coaches or membre.

Manager or technical process monetimes don't have been considered and the second coaches and the second coaches

Scheier is Computerworld's senior editor, management.

Do you have corner throughts on returtion, reconstruct and relating of its profeed and all Sharp there this seconds in a forum on our Web side at

Different strokes for different folks

Tailor perks to the person
— and corporate culture

When it comes to intepling your 15 staff happy, one sinc downs't fit all.

So angues David Poots, a forzner instant resources preferational who has been an IT industry melly and conrultant for 16 years and its now a managing partner at Commell Partners, a Seculiest. Com., IT management

Consultancy.

Foote says most IT professionals fall into one of two groups, each of which is motivated by different types of rewards. The first is the technical specialists, Foote says, who are so driven by money that some "respond like

trained eath" to pay hiller. The record group is the "business technologiess/constalause," who often serve as points of context between 17 and the business untils and ure more expert in a business area then a technology seer. This group goes move for rewards that boost their situss, careers or loop term flancial econory, he says, such as stock options, sustaing or

Foote says even noncash increatives can here brechooling hesishes happy if you match the reward to the toulividant's personality and your corporate culture. "Showy" rewards, for example, pump up the recipient's ego. The range from public "shauky soul" lanches to laggage bags or computer cases that advertises the employer's accom-

pilahments.
"Pampering" awards provide nervices or experiences to employees or their families. They include to cludes to ball games, vacations with spouses or personal care services such as masages. by seeding employees and their families to resorts, Foote says, the company emols the message. "We care

tood you and yout namely. The final category, he adds, consists "naedia" bossoes, which include estable words arrangement, reteconnating and training. But what words no no company might not in another, in continuous properties of the control of the control

And if your chief financial officer bulks at the cost of even minor perks. Foote says, remind the officer that replacing employees can cost as much a too'fe of their annual salaries. Awotiing such costs, he says, "is a highly convincion assument for a CFO."

--- Robert L. Scheier

ADVANTAGE

IS personnel at trucking company J. B. Hunt were leaving at a 25% annual rate. But now, turnover has plunged to 25%. Why? Hunt stopped trying to lure outsiders to northwest Arkansas and began developing local talent to prevent them from hitting the road. By Robert L. Scheler

Bob Logan has eased his information systems skills shortage by turning his company's greatest weakness into a strength.

When Logan came out of retirement early last year to become hield information officer at J. B. Hunt Transport Services, Inc., the annual IS turnover rate was 20% to 25%. One of the biggest problems was finding midlevel and senior IS professionals willing to move to Hunt's home base of Lowell, Ark., a town of 3,000 people about too miles east of the nearest big city, Tulsa, Okla.

National advertising and headhunters of drew recruits "who didn't necessarily ideas to come here." Logan asy, and they to dien were reluctant even to visit to see what the zero was like. Logan, how how as the beought in to improve links between Hunt's business units and the 200-menuber 15 group, knew "ne would never or get ahead if we kept losing people."

Since then, Logan has cut the annual 15 tumoreer zet as 5%, His solution: Sop 0

IS turnover rate to a %. His solution: Stop trying to compete with the IS organizations of big national firms and even local 15 organizations such as Wal-Mart Stores, Inc.,

about 15 miles away in Bentoeville, Ark. Instead, he focused on "creating an environment where people are more than happy to do their best work." It seems to be working in lune,

Hunt ranked No. as in Computerworld's too Best Places to Work in IS.

For example, Logan figured, rather than recruit mid- and senior-level staffers from outside. "Why not promote the people in-house who were 80% 80%, 40%

ple in-house who were 80%, 85%, 90% ready" to move into mid- to senior-level positions and who wanted to stay in northwest Arkansas.

The in-house candidates "had most of the technical skills" needed to move up,

but not the management experience.

Logan says. On the plas side, he says.

"We know them as people. We know how
they think, how they act. It wasn't exactly
a leap of faith to put them in those jobs."

However, it did "require us to give
those people some additional training,
conching and counteiling to get them

ready for their jobs, Logan says. Two or there such managers have been intended not be the same and they're as good as they've been there forever. Logan says. Jeany Coggin describes hereit as someone who was "55% ready" when she was tapped last September to be the someone who was "55% ready" when she was tapped last September to be the someone who was "55% ready" when she was tapped last September to be the someone who was "65% ready" when the was the same developing applications for a government, analyst, express ago as a programmer, analyst, says set for

as a programmer/analyst, says sbe's confident in her project management skills and her knowledge of the systems she manages but is still working on how to balance employees' de-

sires to work on new technologies with the need to meet corporate goals. She says it's vital that employees be involved in ng objectives for themselves and incling their careers. Logan tries to

setting objectives for themselves and advancing their careers. Logan tries to accomplish that with such things as "Give me five" sessions in which employees were asked to suggest five ways IS could be made more productive or their inbac could be immerced.

Not all suggestions are home runs. After developers complained about constant interruphons. Logan instituted a daily "quiet time" from 1 to 4,30 p.m. every day when developers code shut the doors leading to their area and turn off the telephones. It was cut back by one hour after other departments started making cracks about the developers'

The point is to try to improve the work environment, recognizing that daily job



statistation is as important as pay in keeping good poople. "We did a lot to get our business units communicating more with our IS perceipe and getting them to became a limb bit less hetch," and IS had nove lead time on critical projects. Logan hosts a bimonthly meeting datnessi susues affect ongoing IS projects. "This way," he says, "when we say "stop third" or 'start this," at least IS saff memberal have some sense of why."

bersi have some sense of why."

To make sure job candidates will fit in, Logan requires: everyone who would work with recruits to spend an hour or two with them prior to hiring. That helps would making bud hires and gives everyone on the team more responsibility for helping newconers fit in.

Promoting internal candidates to highlevel jobs has opened up several lowerlevel pobs. Here, again, Logan is looking for local candidates, in part through an aggressive internable program with the University of Arkansas. So far, Logan has hirde four or five recent graduates who worked with Hunt for a year to all months before graduation. To help onsure future graduates have the right silk. a Hunt 15 manager will teach a

course on IBM's CICS at the university.
Tracy Black, director of applications, is quick to point out that Hunt is working with newer technologies as well, such as building World Wide Web-exabled applications that give customers instant updates on how much space is available on Hunt tracks. Exposure to new technologies has played an important role in the expering people at Hunt, sithough "it's

In fact, the changes Logan is trying to make are what employees commonly ask for in job satisfaction surveys. "It's just good, common, people practices," he says, "and that's going to work wheeler you're in Boneman [Mont.]. Atlanta or

Scheler is Computerworld's senior editor,

Keeping them happy
— and keeping them
Some tips to holp retain your IS

DON'T waste time worryin about competition from oth

Instead, GROW people already on staff whose skills you know and trust.

BUILD formal processes to help hem gain needed skills.

TELL them how they're doing as individuals, how IS is doing as an organization and how IS fits into the company's strategy.

ently IMPROVE the work nment. **Automatic Product Intern** ABB Control Inc. • Vecta Cold Point • Fleetwood Kleen Brite Labs, Inc. North American Tool. Oldforge Tools • Wes BLH Electronics, In Carolina Steel & \ Surftran • Wil-R New Berlin Pia United Tital Homecres in Dryvit Syste on Geerpres in nent

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State protects your network at all points of entry—the

guteway. It suffs out viruses and hostile applets on their way is from the internet

also protects servers and PCs instile the all, field by falling bulletproof eliest and server encryption, authentication and

people away from your dalm.

Agu-Virus L Tesearch

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egyptestion, though, is why
other 20% go with

MCAFEE



CIOS WANTED; AMATEURS NEED NOT APPLY



tame up with the phrase "CIOs should messpeople first, technologists second," to spend more time on the front lines of clogy decision-making.

CEO would hire a CFO who doesn't undertaxation law. It makes about as much sense re a CIO who doesn't understand technology, IS disciplines or IS culture.

Yet CEOs, frustrated with their inability to understand IS, are doing just that. The results can be disastrous. Let me tell you about some situations where supposedly business-minded CIOs have caused. IT catastrophes (The first is a composite of two sundart companies where the

same sad story is being played out) The wrong moves

hen the CIO of a midsize specially firm resigned, the CEO took it is an opportunity to revamp 1S. The old CIO sometimes among of line management with his emphasis on discipline, planning and high quality standards. So the CEO named a business executive,

Adrenne, to take his place.

Adrenne was determined to see that IS should operate like every other department in the company. Her notion of "alignment" was that the customer was always right. Any complaint from a business manager immediately caused Admente to the company to swoon down to IS and find out.

what was wrong.
To send the appre guate message, Admenne bypassed the ensiting 15 minutgers and hirrd someone from outside to lead up the key strategic protect, a rewrite of the core production system using object technologies. Almenne also was consuced that 15 contained a lot of dead wood, so alse rewrite the pio descriptions and made everyone reapply for their jobs. Until the department could be "receign-

nurd. "Earning was put on hold ... The key development project went hay were almost from the start. The new project entranage had blee sculad project eyes certainage had blee sculad project eyes the schoolings about object setchnologies. Escurade of that ignorance, both the data and object architects as aggred to her staff were randble in comment of the schoolings of the schoolings and the schoolings are some project manager felt crossal designs stoset to a systems inscriber evoludit in under stand the estimate systems architecture or the application. Firstarde, both architecture of the application. Firstarde, both architecture of the application. Firstarde, both architecture of the comment of the school in the school in

project team. The implementation date for the new system was repeatedly pushed back. Several of the longer-term employees.

Several of the longer-term employees who reapplied for their jobs weren! "rehired." That along with the demase of education programs, hurt metale. But those weren! the only things that got the 18 staff scenared. They saw that Adrenne and ber new manager were always willing to compromise quality standards in the face of unrealistic deadlines from

As a result 50% of the staff left within the first year of Adrienne's regime. The new system still haseft been delivered. Now there aren't enough people left who understand the legacy systems to keep them running efficiently.

A project floos

hillp was a dristion executive harded to overse development of a corporate data repositosy to be used by all dristions in a large, international company. Development in a large, unternational company. Development was being outsourced to a many oxystems untegrator Philip had no 15 background but was available because of a reorganization. He was given a small staff and told to set it does not shedded.

The preliminary design of the system called for a largely hatch application. Philips still and his own reading in the newly discovered IS literature convinced thin that what was needed was an online real time database with management inquiry and reporting and a PC graphical user interface application.

Moving from a batch to a real-time system required a significantly upgraded server, resulting in budget overruns. Because the various sites had many equipment types and operating systems, the PC application development became complicated and inne-consuming.

Moreover, the remote sites had to learn the PC application, as well as how to use and analyze the information. There was no provision for training in the application or the reporting system, so hardly anyone used it, and the help desk was ill-

equipped to support that software. It was perceived as a major failure.

Lessons learned

derence and Philip show why managing IS seri a pob for amateurs. Adments est out to recognize and recorder IS without the faintest understanding of the sild sets and ulters required to develop and maintain systems. She guitted the knowledge base and placed her company in a stuairon where it couldn't realizestary by plan for a setcheology future. Philip the plan is the properties of the plan of the p

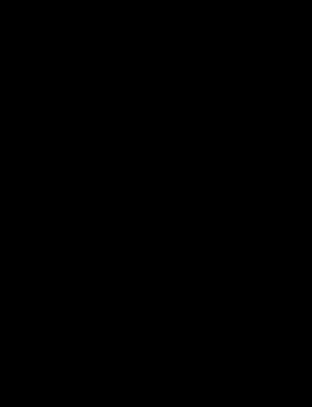
trom "what was needed".

Is sim? lide other departments. Its workforce is more mobile and can easily walf force is more mobile and can easily walf if management doesn't meet expectations. Bussness ClOs have to understand they are as beholden to the troops as they are to their peers and bossess. They have to learn how and why strongs are done the way they are It's not that the term of the proproverment, but if the total the proproverment, but if the total the management of the proproverment of the proproverme

Allen's column deals with people usues managers face every day but are reluction to discuss openly. Each it based on a real-life tituation. The numes and certain circumstances have been changed to protect coefficientality. Allen is a discrete at Tenex, a marriagement consulting firm in Burlingson, Mass.

Wanted: smart managers

What management technique do you sue hat you Golidier particularly effective? Send us a brief pyropsis, and wall work with you to develop a case study for publication. Topics include interviewing candidates, bring and fi



CIOS WANTED: **AMATEURS NEED NOT** APPLY

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To send the approp enne bypassed the existing IS managers and hired someone from outside to head up the key strategic project, a rewrite of the core production system using object gies. Adrienne also was convinced that IS contained a lot of deadwood, so she rewrote the job descriptions and made everyone reapply for their jobs. Until the department could be "reorga-

nized," training was put on hold.

The key development project went haywire almost from the start. The new project manager had little actual project experience and knew nothing about object technologies. Because of that ignorance, both the data and object architects assigned to her staff were unable to communicate with their boss. In addition, the project manager left critical design issues to a systems integrator who didn't understand the existing systems architecture or the application. Frustrated, both architects quit within a few months. There was constant turnover in the rest of the

project team. The implementation date equipped to support that software. It was for the new system was repeatedly perceived as a major failure. pushed back

Several of the longer-term emp who reapplied for their jobs weren't "re-Lessons learned hired." That, along with the demise of

drienne and Philip show why managing (S isn't a job for amateurs. Adrienne set out to reorganize and reorient IS without the faintest understanding of the skill sets and talents required to devel and maintain systems. She gutted the nowledge base and placed her company a a situation where it couldn't realistical As a result, so% of the staff left within the first year of Adrienne's regime. The new system still hasn't been delivered. ly plan for a technology future. Philip succumbed to techno-bype and didn't sufficiently differentiate "what could be" Now there aren't enough people left who

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Hot Shot.

"The CD and, it me see! If he got this straight. You're spring you can emperment a workwhole storage youther that will actually increase the company's performance and reduce costs?" Without slipping a best, last you. And without clapping a best, be said, 'you have alloy days to show me how." Imminishe the day' Stongdelf's presented their recommendation. Because that was the fast paint alcassing you some sleep." Stongdelf's presented their recommendation. Because that was the fast paint alcassing you some sleep. The stongdelf coday at 1 860 756-7555. Or visit us on the Web. Secause in this world of multiplatefrom computing, the right chools in bitsong can mean the difference between providey yoursyld every day— and priving yourself once and for all.

Buyer's Guide

DIFFERENCES LIE

By Todd P. Pike

Web servers are every where, in today's world of private intranet and public data distribution, simulally every swithstation connected to the Internet us potential World Wide Webererre. Several operating systems now include Web server software or make one multiple at no additional cost. With that in mind. Clime Merey Labs.

evaluated eight Web servers (four for Windows NT, three for Unix — two for Sun Microsystems, Inc.'s Solaris and one for Linux — and one for Novell, Inc.'s Intranet-

Ware). We evaluated each product based on the following criteria: X Ease of

installation X Ease of management X Features X Ability to connect to a database

Of the servers evaluated, four are acparately packaged commercial servers, and four are either packaged with the operating system or are freely available.

The major differences among the servers came down to the quality of the administration tools — and to a lesser extent, the ability to write applications for

the Web server.

All the Web servers were installed eastall the Web servers were installed eastserving up traite page. The addition and
improvement of administration tools
constituted the first dividing line belevel upwaring upware additive were
required for most of the server software
installations, the hill required to all
entitletions and the required to
the required to the others, but there
of these, August Compare Again the
server for these Against and the
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Interface (CGI) development tools and

the ability to connect to corporate databases was the next dividing lior among the servers. The differences contered on how many databases were supported and how easy it was to connect to them and put entracted data in our pages. All the web servers could connect to at least one database, and some of the servers made it fairly easy to make a database connection

fairly easy to make a database connection with the application development tools that came with the serves. But Oracle Corp's Web Application server stood out — not only because of its addity to connect to almost any database but also by making that task easy to accomplish. As more companies begin to use Web-based applications, what's included in "basic functions" certainly will have to examd.

WEB SERVERS VS. APPLICATION OR INTRANET SERVERS

Web servers are no longer just special programs that return our state: Hypertext Markup Language (HTML) formatted files. Each server in the evaluation offerred a wide variety of features outside of those required by the particular Hypertext Transport Protocol (HTTP) version in the TOOLS



supported. All those servers claim to be compliant with Version 1.1 of HITP. We successfully tested some of the Version 1.1 features, such as virtual hosts, on each of them. Other Web server features that are important to managers include availability of graphical configuration tools, good documentation, security

ientures and dynamic page application support. Too also abould consider whether you rath flas the skills to administer the server and keep the content up-to-date. A Web server deployment in the best time to learn a new operating system, especially if your staff is new to Web servers. Fortunateby, most of the evaluated servers un on a wateriey flandware platforms. The hardware and operating systems. Web server servers on well play a part in the choice of evers. For example, we have represented to the server of the server web server is limited to Soliatio, and showfit Web Server y as in hard on intersective. Miscond Copy. It is interest information to the server of the ser Server, (153) and O'Rolly & Associates, Inc.'s Webble Professional run only on NT, and Apache has a pro-best release of its NY version on its Web site. Fectors such as performance and row terment evaluated in this companion. The main barrier lo evaluating performance and cost was the variety of hardware required for the evaluation. The point wast to evaluate an obstaction which would include the best hardware for a particular server—but to look at the latest vension of each software to the contract of the evaluation.

package and compare their features. If you've no significant the server handled with your operating system and Apathe, the "fire" server. Features way wided, and a purchared third-part server could ensure with the and thomey over a "no-cost" server that requires a great time and thomey over a "no-cost" server that requires a great deal of technical still and efforts to administer. But if a no-cot server intent your needs and matches your shall set, you may have the ultimate economical solution.

TESTENVIRONMENT

We stated to servers on these platforms. The NT and Internatives servers such were listabled on a DNI Computer Cope, ADO with the 200-bill belief Copy. Perform Pro CTI and 2550 by Breat of memory. The State's based servers were included on a SNI UTIF2 will be alongle UTIFS/BATE CTV and 2550 bytes of memory. The Apaches server was instabled on an INEE TO 30 with a larged 4550 of 45600 CTV and 2550 bytes of memory. The Apaches server was intabled on a not INEE TO 30 with a larged 45500 CTV and 2550 bytes of memory. The Apaches server was inferred to 30 miles of 30 miles and 30 mi

Apache 1.2 Apache Group and Red Hat Software, Inc.

Apache, the most popular Web server in the world, is available free through the latenet and comes packaged with variout Unix versions, including Red Hat Software's distribution of Linux 4.2 used in our evaluation.

Installation was a snap. It took us about a ominitaries to install Apache as part of the operating system installation process. Adding the energy to an ensisting system swould have taken only a couple of the control of the control of the control of as your non-containing server, you see a page that describes the locations of first important to configuring, monitoring and adding content to the server. But sometime to the control of movice webmaster may need to know move than just the file because to propmove than just the file because to you.

management tools.

There aren't any mapagement tools —
There aren't any mapped-gody with the server. But there are commercial and forecast third-party tools that can be configure and run the server. Without much tools, making changes for a work overwinest as point and click, but it also instructed the serving deficient. We added a virtual server based sidely on an example abressly the configurations file. Rending they provided examples should get most system demandation of their way to mastering

Apache's strengths are its multiplatform availability, CGI tools and ability to be customized. Pail source code for the severe is available, to you can port to a nonsupported operating system and customize, given the appropriate programming skills and a little time. Besides the Apptice severe. Red Hart's Limus includes several application and CGI development tools that make it the most fleshibe package and the most likely to meet the programming skill are savailable. The tools include some familiar narses such as Perl, Java. C. and C++ It also includes

include's some familiar names such as pret, Java. C and C++ it also includes some less familiar but just as powerful acripting languages such as the follocommand Language known as Td (pronounced "tickle") and Pythen. Other Web servers provide some good tools, but none have as many or as much variety. Prepractizated whithints noth at the Red

Prepackaged solutions such as the Red Har product lesse little to clause the late of the process of the provide a complete software package. Once; you complete and install package from scratch, the skills needed increased resident grounds and seat are interested in running Web nerves on several self-result and seat the state of the process of the pr

ould back away from Apache or cousid

er a commercially packaged Web server.

Bomino Go WebServer 4.6 Lotus Development Corp.

Lotus Development Co 800-343-5414 www.lotus.com

Domino Go WebServer, previously known as Lotus Go WebServer, isn't a new player in the market, but it was new to us. It arrived in compressed archive

format, which when extracted gave a traditional set of Windows NT installation files. The setup program started an installation wizard that walked us through the setup details. A few minutes later, ev-

cre strup senses. A rew minutes saret, everything was ready to go.

Server management was done via the server with a Web howser interface. The initial screen has a link to a configuration and management page made up of several text-only limbs. That made configuring the server more difficult than it should be server more difficult than it should



have been. The clutter especially stood out considering the high quality of the other pages. After finding the correct link and using some help from the online documentation, we had a virtual host set up and pointing to our test files.

The coline documentation was entire and use of the server's strengths. With little trouble (flut usone time), the tools and entemples provided with Domino Go Webberres could yield a good set of pages with database connectivity. But without experience with the application programming interfaces (AFI) out to other interfaces provided, it could take a mi-jor investment of time for someone with out experience to get arrything other than

WE SERVER SOFTWARE

"If you said no what's paleg to bappoint to the Web nerves, it can till you I respect that they will become lesappearing, will become more lespained in the operating system and will not be product when find a pacifically to a restrict or herisotion motion," every Tim Steam, director of hapman infinitescence research at Medical Comp. Inc., in

The original concept of a Web occurs was to be: a basic HTTP acror that mostle map pages directly to Sten. How remerging the Webranen, measure and the constant of the way to be a second to the Web also have became funct formation that purple capacitation, diministration of the second to the Web also have became funct formation that purple capacit when they long the Web areas. Shann soys: As a result, "the reads is on to put most and mass lost the Web serve," he

Because of this, "bying to map the vendors and the products is a challenge," says Ref Julies, an one lyst at intervedient Date Corp. (DC) in Prestinghem, Mans.

Vanance and continuing trying to one-up one amother by pothing when twen assumed to be a substantial to the continuing of the continuing o

Analyst view, page 8

Ted Julian, International Data Corp.



Tim Sleam Aberdans Group, Inc



ANALYST VIEW:

Because the mortest has on

pomind, IDC fragments the Webserver medical into the following types: Collaborative, Calendar, 14779/pomint, Managing, Notwal, Nama Templer Powicol/Inser, Pressylandin, Carillicate and Directory, Julies cays. (on chest, page 65)

VENDOR POSITIONING As with any graving/hatevated rearbat, vendors on jacknying for ownsprints of Web servers and breasure components. Here are some of the lay vendors and their strategies, according to Shows and IDCs report on global internal

Netscape

indly for Helicitani, but year may some bear its castest year from a side volume pumpetine. How the forceoff its getting its act together and Latest han moved quitchly to interest enable and expand Helicitani, detection much of the shouly siched much of the law shouly siched much of the law-hanging with 100°C.

Notecape clearly became the company is is — not just because it sold a dynamia. Who serve, not because it reguests that the Web serve, the normagness serves, the nodi serve, the directory server and necestly made for a open standards-based notionals apenting system. And that was nature to challenge tellars.

Novell

concerned.com local has a shot at trying to bring our its justalled hase, but I don't so it as a susjee player in the

Sun

was connoise would the decide to entered the solenous more deeply into interest ever software — providing the est applications and infrastructure even, purhaps jears-haned, busoil with Sun handware — things

don't shiek Son could care less about Web serving, own though they have that product. They care about gesting jows used as the delegement environment; they've some out with a Web server that dicarly supports the Integration of Son. They'd lile you to saw that the server. If you don't, it's OK

Web servers

CONTINUED FROM PAGE OL



static pages. Go WebServer can run on different types of hardware. It also has the software support expected of a commercial package and some convenient

Go WebServer is a good enterpriselevel Web server for a company that needs only one server or needs multiple servers that run on various platforms. The technical expertise required should keep it off end usern' desknops, but it's an overall good solution.

Microsoft IIS 4.0 (beta)

o-426-9400 ww.microsoft.com

The Internet Information Server (IIIS) comes bundled with Windows NT and could work well as a desktop or enterprise solution as long as NT is the only operating system being used for Web service. Because 115 runs on only one operating system, its usefulness is limited to some sites.

Installation, like most of the manage-

ment tool interfaces to 115, in door with a brower. Interface to 115, in door with a brower. Interface to the contract allowed started the default browner, which in our case wann't Microsoft's Internet Explorer. At least with the beta version, it became wident after several failed attempts that installation with anything other than finternet Explorer wann't going to happen. With that problem solved, it took no time at all to install the required NTI Service

at all to install the required NT Service Pack 3.0, the IIS software and an upgrade to Internet Explorer. IIS comes with an NT-native graphical

user interface (GUI) and a Web between interface to the administration server. The NT application certainly would dome in handy for stopping, starring and restarting the server. And there was fittle difference between the two interfaces. There were a few actions that caused the browner and the GUI to fail with access violations, but they were eastly attributed to working with a beta version of the serv-

The server comes with an entire sample nite, from which we quickly crafted an Active Server Page to query our sample database. I wouldn't recommend creating dynamic pages from scratch, but working from the examples provided should be easy for anyone who has some experience writing macros for Microsoft Wood or Even

IIS strengths are in case of use and integration with the operating system. Anyone familiar with the NT environnent worth have trouble installing, configuring or administering the server or the control. Its only real weakness in the lack of availability on other operating systems. I wouldn't recommend going out and converting to NT just to run this



server, but anyone whose needs are limited to NT should certainly consider it. And anyone who needs to have a single administrator and content manager might look at this as a good starting

point. Netscape Enterprise Server 3.0 Netscape Communications Corp. Boo-618-7483

Enterprise Server's installation under NT went very quickly. A brief distraction during the installation was all it took to miss its completion. After a quick reboot, we were ready to work with the server.

Management, as with many of the other servers, was by way of a Web browser through an unkuded, copy of Navigator Gold. It took only a few clicks to configure our virtual site. As with the other servers, the next goal was to query the test database. The tools

in this case were the Live Wire Database service and hints available on Netscape's Web site. That process tan't for the novice, but any good systems administrator should be able to do the job relatively quickly.

The evaluation was completed quickly, and the management tool was very good. The other major tank, the data access test,



was completed with relative case but required some level of skill to implement. The evaluation told us that overall this is a good server, which barely got warmed up by the exercises it was run through.

Enterprise Server is another of the servers that enables the company with a variety of hardware to leverage its knowl-

Availability in various Unix flavors and NY allows for some consistency among the platforms. Like the other multiplat-forms solutions, this init's server! would recommend to the causal end user, because of the schemical expertise needed. But that probably int't the sudience, Netherland, and the sudience of the schemical expertise needed. But that probably int't the sudience, Netherland that the sudience of the schemical expertise server that's easy to manage, this certainty, should be on your

Hovel Heb Server 3.0 Novell, Inc. Roo-455-1267

tioned that Server (1995) expected to the model fine are mainer to all the Server for the server for the server for Server for the uses the server for distribution but was slipped over during the operating system institution in the operating system institution in the conflict for the server for the linest ventice found on bouffthe Novel time. We'll a sind the required the Novel time. We'll a sind the required the Novel time. As a first minutes with a first function policy that can be a server becoming the decimination, we were becoming the decimination of the server for the se

with the default Web site.

Management tools were the typical

GUI client tools with no browser-bissed

management tools available. Using a

bowser to go through the documentation, and using the management tool to

try out some of the numerous step-by
arp examples, was easier to keep straight

than using a browser for both pieces.

There are no Open Database Connectivity (ODBC) tools available for NWS. But NWS provides native access to Oracley databases from its NetBasic in-

NWS doesn't provide a one-stop shopping answer to a site trying to support several operating systems. A Novell site trying to leverage its existing servers onto the Web using its in-house skill certainly should consider it worth the download to evaluate and could easily find NWS a perfect match for its needs.

NWS does what it should as a server, at companies that want to implement a



Loca usive customer.



Where do today's leading-edge retailers discover new opportunities for growth? We guided REI, a well-known outdoor outlitter. to the IBM RS/6000. Using proven e-commerce solutions, we showed REI how an RS/6000 can use the power of the Internet to reach new customers. We easily integrated it into their existing systems. And, because RS/6000 solutions are remarkably scalable, REI needn't worry about turning away business. How can the RS/6000 supply your business with a powerful e-commerce tool? For the solution that fits your needs, drop by www.rs6000.ibm.com/solutions or call 1 800 IBM-2468, ext. FA056.

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Solutions for a small planet* IIII

AMALYST VIEW:

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We all know what they're trying to
do. They're trying to do the opposite of what Sun's trying to do.
Make it Windows, make it NT and
ure our OLE and [Distributed Com-

One of hiterood's earliest responses to the internet's envergance was its basic HTTP server, tearwest information Sarver, Initially available as a fee developed five Microsoft's Web site, ItS is new in-

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[Latur] quick move to the heart of internet standards in quite a feat for a company that was severely threatened by alternative internet.

Apache

How Apacha. It shows the power of gatting developers on beard outly and lacked in to your platform by distributing the product free and gatting people coding to it. You've got all these people who knew how to work with it. It's hard to move to

O'Reilly

O'Relify's goal is to generate layer customers and maintain them is staying; very sitenties to their staying; very sitenties to their seads. Lately, it has felt the heart from Microsoft as the Redmond than relik cent its Internet products But O'Relify sines to carve out a sicke by delivering a good product with additional features that instal

Anybody who's looking at a lowand, low-energy effort to get a Web Assirst view, page

Web servers



Web site probably shouldn't switch to NetWare or IntranetWare just to get the

Oracle Web Application Server

800-633-0596

Oracle's Web Application Server was a joy to work with. With its browser-based management tool, there was very little to do from the command line, short of starting the server roofstate.

Installation wasn't a problem, because the Web server comes preinstalled. The installation actually loads two servers in the problem of the server is for administration pages, and the other is for

standard Web pages.

Once the administration server was running, it took no time to add a virtual host to the listener and begin adding our

own content. In this case, the content was a page that contained a specially formatted uniform resource locate to access our database. It should come as no surprise that Oracle made database extaction rather trival. Because the server uses specially formatted HTML to recognite the database requests, arone familiarity of the database requests, arone familiarity.

iar with writing HTML shouldn't have a problem creating dynamic pages. Oracle provides several extensions called 'carridges' that plug in to the severe to add capabilities. In our case, it was just a matter of configuring the ODEC carridge and then browning over to the page we had created. One of the few manual edits of configuration files we did was to add a reference to our database in the ODEC configuration file.

to the one of the consignation of the conplex in the surgina of Grazie's. Webper in the control of the Web Application Server also has easy-touse administration tools and makes it can for the coll user to create content. We were very impressed. Oracle Web Server would certainly be our thoice given the areas contained. To impress our certain the control of the control of

O'Reilly WebSite Pro O'Reilly & Associates 800-998-9938

WebSite Professional, like most of the other packages, comes with all you need to run an enterprise-level server but is simple enough to be run by an individual for use on a personal workstation. The installation runs from a CD and

includes the server, a sample site with numerous examples and the standard edition of Cold Pusion. You can install it as an NT service, task-bar tray application or stand-about application. That adds some flexibility over the other servers.

The management tools seemed a bit awtoward at first because of a slighty did ferent style from the other servers. Everything needed to administant the server is available from a babbel "properties" style dialog box available from the task but tray if the server is installed that way or from a menu added to the task but. We added the task but. We added to the task but. We added to

working from the estampte temptates and using the GUI management tools made database connectivity easy work. If Cold Fusion isn't your preference, Web-Site Professional supports many other APIs, including Active Server Pages.

WebSite Professional turns on Win-

Web servers,

		Apache 1.2	Domino Go WebServer 4 o (beta)	Microsoft Internet Information Server 4.0 (beta)	Metscape Enterprise Server 3.0
OPERATINO SYSTEM(S) SUPPORTED		Unis (various) and Windows NT (beta)	Windows NT and 95, OS/2, System 390, Unix (verious)	Windows NT	Unix (various) and Windows NT
HETALLATION		Version 13	Version 13	Version I.I	Version U
		Good	Excellent	Excellent	Excellent
COMPIGURATION MARAGEMENT	BROWSER	Third party	Very good	Very good	Excellent
	OUI	None	None .	Excellent	None
DOCUMENTATION	ONLINE	Very good	Very good	Excellent	Very good
	PRINTED	None	H/A*	N/A*	Good
SECURE SOCKETS	LAYER SUPPORT	Third party	Version 3.0	Version 3.0	Version 3.0
DYNAMIC PAGES	KEY API/TOOLS	Python, Tool Command Language, C, C++, OS-specific	Go WebServer API, Java Speech, Netscape Server API, Internet Connection API	Active Server Reges, Internet Server API, Pythen, Tool Command Language	Netscape Server
	PERL	Yes	Yes	Yes	Yes
DATABASE SUPPORT		ODEC (Third party)	ODBC, Oracle,	ODBC	ODBC, Oracle,



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When you're rolling out a new design, it helps to get a jump on the competition. That's why BMW, Chrysler, Ford, Honda and Mercedes-Benz rely on a total workstation solution: the IBM RS/6000: Working side by side, we helped these companies build tailored solutions that run the leading design applications. The result? Design teams around the world can share ideas and work more closely together - helping to reduce the time it takes to bring new models to market and new customers into showrooms. How can an RS/6000 solution drive your business? Stop by www.rs6000.ibm.com/solutions or call 1 800 IBM-2468, ext. FA058.

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Solutions for a small planet

ANALYST VIEW: CONTINUED FROM PAGE 84

server up can use the O'Reilly box and get some excellent support from O'Reilly in the process. I don't see them offering value-add in any particular vertical or horizontal rket. So I think — if I'm accurate on the trend of these things being built in to operating systems and vertical and horizontal solutions that will slowly start to put preon O'Reilly, as well. - Sloans

Oracle

- Web client - IDC **National Center** for Supercomputing

Applications www.ncse.uluc.edu They haven't been keeping up-ly well with the latest and grea ng up res in the Internet base. But they do have a nice little market share. —

CHECK OUT THIS SITE

n in England, tracks Web serve vare usage on internet consters, it coll es all the host names that po le an HTTP nervice it can find. It atically polls each one wit an HTTP request for the server name. In a poll it conducted last month, Netcraft received respon es from 1,269,800 sites. The fol ing are the top servers cited:

67.338 63,888 e: Co

37.315

- Cou 33-549 ness in a very direct way," SI s. "They go crawl the 'net as take a look and see what kind of ers are out there. They do an nt job of being candid ab at they can and can't do." Compiled by Cathleen Gags

Web servers

CONTINUED FROM PAGE 54



dows 95 and Windows NT. making it available to just about every desktop PC. For the small company that needs only one or two servers or the company that needs all or most of their desktop machines running a server, this may be the

It would be easy to administer the server and the content It also could be the answer for a larger NT-only site. Anyone who needs support for multiple hardware types or with even

a slightly complex setup probably should look elsewhere. Sun Web Server

Sun Microsyste 415-060-1300

Sun Web Server is yet another response to the growing need to distribute information from just about every workstation

on the Web. Like other operating system vendors,

Sun packages its Web server with the operating system. Starting with Solaris 2.6, it will be distributed with the operating system. For those unwilling to wait, it can be downloaded from Sun's Web site. The server came as a collection of files

with several Sun format packages and a README in postscript format that contained installation instructions. Working through the installation instructions was straightforward, and anyone familiar with the Solaris package

tools will feel right at home. Once the Web server is installed, the scripts are in place that start the server once the m

Manuall also will go server st

and the in lation ins tions des that proces browser-ba administra tool has the confi tion needs cluding se up a vi server.

But the

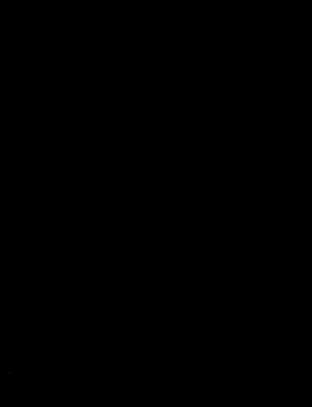
seemed more like an add-on than something integrated with the server. Room for improvement exists. Until then, there's always manual edes.

This could be the budget answer for communies or individuals looking to run a Web server on their existing Sun equip ment. Sun's Web Server has promise but isn't quite the enterprise solution and shouldn't compel the non-Sun user to switch just for the Web server post ware. Cl

Pike is a testing engineer at Client/Server Labs in Adante (www.clinc.com), a pri-

WORLDWID UNITS AND	REVENUE BY SOF	ER SOFTWARE TWARE TYPE
TYPE	SHIPMENTS	REVENUE
HTTP/content	500,000	\$57M
Messaging	150,810	\$3434
Collaborative	55,000	SIEM
Proxy/cache	6,000	SyM
NNTP/news	4,000	S4M
Directory	3,000	SSM
Total	718,810	\$122.7%

		Novell Web Server 3.0	Oracle Web Application Server 3.0	O'Reilly WebSite Professional 2.0	Sun Web Server 1.0
OPERATING SYSTEM(S) SUPPORTEO		NetWore/ IntranetWare	Unix (various) and Windows NT	Windows NT and Windows 95	Unix (Solaris)
нттр		Version I.1	Version 1.1	Version LI	Version 1.1 (partial)
INSTALL	ATION	Fair	Preinstalled	Excellent	Fair
CONFIGURATION MANAGEMENT	BROWSER	No	Very good	No	Fair
	GUI	Good	No	, Good .	No
DOCUMENTATION	OHLINE	Very good	Excellent	Very good	Good
	PRINTEO	instellation only	Good	Excellent	Very good
SECURE SOCKETS	LAYER SUPPORT	Version 3.0	Version 3.0	Version 3.0	Version 3.0
DYNAMIC PAGES	KEY API/TOOLS	NetBasic	PL/SQL, ODBC, Eve HTML	Active Server Pages, Web Site API	None
	PERL	Yes	Yes	Yes	Available
OATABASE SUPPORT		Oracle native	ODBC, Oracle and more	ODEC	ODBC (Third party)



HALVET VIEW CONTINUES PROM PAGE SE

Oracle

National Center

for Supercomputing Applications

CHECK OUT THIS SITE

Web servers CONTINUED FROM PAGE SA



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tools will feel right at home.
Once the Web server is installed, the scripts are in place that start the server once the machine is restarted. Manually run

also will get the server started

and the installation instructions describe

that process. A browser-based administration tool handled the configura tion needs, in-

cluding setting

But the tool

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Pike is a testing engineer at Client/Server Labs in Atlanta (unsucuting.com), a primany client/server test partner of Compu-

OOBC (Third party)

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	E INTERNET SERVE	
TYPE	SMEMINE	REYEMAE
HTTP/content	900,000	SyM
Managha	190,010	Shill
Collaborative	55,000	SIRM
Party/cache	6,000	1961
HHTP/news	4,000	SAM
Discharg	1000	200
Total	ntho	\$122.784

ware.D

		Novell Web Server 3.0	Application Server 3.0	O'Reilly WebSith Professional 2 G	Sun Web Server 1.0
OPERATING SYSTEM(S) SUPPORTED HTTP		NotWorn/ IntranetWare	Unix (various) and Windows NT	Windows NT and Windows 95	Unix (Selaris)
		Version 1.3	Version LI	Version I.I	Vecsion 1.7 (pertial)
INSTALLA	тюн	Par	Preinstalled	Excellent	Fair
PIGORATION	BROWSER	No	Very good	No	Fair
	GUI	Good	No	Good	Мо
UNENTATION	ONLINE	Very good	Excellent	' Very good	Good
	PRINTED	Installation only	Good	Excellent .	· Very good
URE SOCKETS LAYER SUPPORT		Version 3.0	Version 3.0	Version 3.0	Version 3.0

PL/SQL, ODBC, Eve HTML

Yes

Source Informational Parts Corp., Promingham, Marie

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When Pacific Northwest National Laboratory, the National Institutes of Health and other leading research centers tackle problems of global proportions, they start with a powerful solution; the IBM RS/6000 SP. Its unique ability to perform large-scale computer simulations provides scientists and researchers with new ways to design lifesaving drugs, locate oil reserves, even clean up the surroundings - in less time and with less risk to the environment. And that benefits all of us. For a closer look at an RS/6000 solution to your complex science, technical or business problems, stop by www.rs6000:ibm.com/solutions or call 1 800 IBM-2468, ext. FA060.

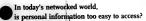
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Solutions for a small planet*

In Depth

POUND

PUBLIC RECORDS



When policy was defined for gaining access to public records, accessing data generally meant go-ing by two mallor filling out a form and waiting by the mailbox. The Internet has changed all that. Today, extremely personal data is just a mouse cisck away. And in many cases, it's resold by businesses — even branches of government — without permission.

Has technology changed the meaning of "public" so much that it's time to rethink public records access? Or is the Internet simply one more medium that shouldn't affect longstanding views on what's public and what's private?

To get opposing points of view, we invited Robert Winstress and Laureas Weinstein to engage
in a virtual rounduble.
Westernen hesslik the Direct Marketing Association. Weinstein is a longtime privacy advocate.
Each responded to the
same series of electronic
mail questions. Their responses were edited for
brevity and constent.



In Print In

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Wientzen is president and CEO of the New York-based Direct Marketing Association. He

Association. It puides the association's government relation public relation consumer a fairs and all or enaiting fun thous. He haveled in maketing for mothan 30 year including a 2 year career

of the Nav. Yo.

Procter of Gar He Co. Wie teen is a fi quant industry speaker.

CV. Should he LE, review applications an accessing public exceeds 25 STATION Most definitiely Technological arbaneous of a wide variety, no, just the Internet, have resulted as a qualitative change in the data we have undestinatively rivered as public record. When much information was just intiming on indeer cards in the back room the contract of t

application for which the data was not originally califords, and which many prode (solice base bound all to precise handles).

WHETETALE, the relative mase of access to profile controls installed.

WHETETALE, the relative mase of access to profile controls the relative profile or of making public controls available remains the same regulation of the reasons of accessing them, Public information to use for making public controls are sufficient to the control of accessing them, Public information is to the control of a provide consumers with information, products and services appropriate for that takes the control of a provide consumer and access to the recent to a provide consumer and access to the control of a profile control or access to the control of accessing the same and the control of accessing the control of ac



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Building a Website that will attract millions of fans requires a powerful teamma of the busiest Websites around: the NHL, the Olympic Games, the PGA of America, even Wimbledon, to name a few. The reason? its incredibly scalable UNIX operating system, AIX; gives the RS/6000 the flexibility to rise to any challenge - now or down the road. So, if you're building an Internet site for millions or an intranet for hundreds, we'll help design a winning solution for your business. To learn about all of our RS/6000 solutions, stop by www.rs6000.ibm.com/solutions or call 1800 IBM-2468, ext. FA057.

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ould information that is gathered by the nt — whether local, state or federal — be CW: Should inform

lowed to be repockaged and sold for other pur-oses, such as data mining or direct marketing? WIENTZEN: Information on a single individual is not useful to a marketer. Marketers use aggregate information regarding consumers' prefer-ences and buying habits to form groups of consumers with like interests and tastes. Information used for data mining or direct marketing is used not only for the benefit of comp nies that use the information but also ultimately for the benefit of the consumer.

WEINSTEIN Such information should not be available for nongovernmental uses without the explicit prior permission of the persons whose data would be released. If individuals wish to paripate, that's well and good. But individuals who have provided information in the course of doing business with municipalities - or commercial firms - should not be forced to become partici-

nts in such marketing plans. WIENTZEN: One of the benefits of the Inform Age is the ability to deliver relevant inforation to individuals depending on their personpreferences. That is why the use of group remation by interest is so important to both marketers and consumers.

CW: Should consumers be presented with a rivacy option before they divulge personal infor-

WEINSTEIN: Consumers should absolutely be able to indicate at the time information is collected whether they wish that data to be divulged for commercial applications or uses other than those for which they were informed it was originally

WIENTZEN: The Direct Marketing Association (DMA) has a long history of supporting the rights of consumers to opt out of the marketing process. We firmly believe consumers should be made

aware of the ways in which information about them is being gathered and used and that individuals should be given the opportunity to decline.

CW: Should there be any gove of such information? If so, at what level

WIENTZEN: The DMA does not feel there should be any regulation of such information. There are many checks and balances that secure individuals' privacy protection: industry selfregulation and ocer pressure, fraud regulation by

government agencies and watchdog vigilance by nsumer advocacy groups WEINSTEIN: While the potential for undesirable side effects from sucreased regulation does exist, it seems quite clear that self-regulation by

the industries involved in dealing with this inforon is not sufficient protection Marketing organizations believe that privacy is

not a right; it's a preference. Only federal legislation establishing uniform national standards could have a practical impact. Such legislation should be part of a top-to-bottom look at privacy issues in this country. Right now, it's rather like the Old West - pretty much anything goes. That needs to change. We need to start blishing who has what rights to which sorts of information and to what extent individuals should have the right to access, correct, control and restrict the way information they provide is used and distributed by different entities. The laws are woefully inadequate to address the reali-

ty of the way personal data is now being manipulated, packaged and sold. CW: The DMA has an extensive list of priprinciples. How well do you think such self-

WIFNTZEN: We believe it works quite well, but we are committed to making it work even better. It's in our commercial interest to see that privacy self-regulation works. Direct marketing, more than most other commercial mediums, requires the trust of the consumer from the first transac-

tion to work The DMA has a selfregulating process to investigate complaints. The Committee on Ethical Business Practice. comprising 15 executives from DMA mem-

ber companies, meets 10 times a year to investigate both member and nonmember companies' business practices. The committee works with companies to help them understand and adhere to guidelines. The process has been very successful in promoting consumer pro-

tection and increasing confidence. WEINSTEIN Such principles are interest"The laws on the books are woefully inadequate to address the way personal data is now being manipulated.

packaged and sold."

ing in an academic sense, but they have no real teeth and are obviously insufficient to do the job. Outcide of the fact that they don't go nearly far enough to protect individuals' privacy, there is no way of requiring every database and every mar-keter to follow those principles — they aren't all members of the DMA. And the number of databases out there that can be used for marketing and other commercial purposes is vast. Most peopic are busy enough without trying to stay abreast of the ways in which information about them is being distributed and used.

CW: Many argue that the internet is merely the latest medium and that existing privacy laws and regulations are sufficient. Is this true? If you believe the internet justifies new lows and regulations, who

WEINSTEIN: The Interset is the latest medi um, but existing privacy laws and regulations are not sufficient. They wouldn't be sufficient today even if the Internet did not exist. The Internet through no fault of its own, merely magnifies and accelerates effects that were already occur-

ring; it is not itself the problem. For example, when the state of Texas' motor vehicle records were made publicly available on the Internet - allowing anyone to do complete information look-ups based on name, add cense number or other data points — it was a horribly bad idea. It would still be an awful idea even if the Internet was not involved and son other access method, even regular postal mail. was the access method.

The real issue is who should have access to that information and under what condinot so much whether it's being accessed over the

WIENTZEN: The current level of legislation governing privacy protection is appropriate, and new laws are not necessary. I believe the system of self-regulation will function well as the Internet becomes a more common marketing tool.

CW: Other comments? WIENTZEN: Restrictive laws regarding the collection and use of information will squelch the possibilities of the Internet providing both consumers and marketers with access to in and services. If marketing activities are severely limited, further investment in the infrastructure will also be limited.

WEINSTEIN: Public record data can be abused in manners that can destroy persons economically or even threaten their lives

We need to sit down as a society and start striking a reasonable balance between the legitimate commercial desires of marketing organizations and the very real right to individual privacy that I firmly believe, the vast majority of Americans strongly feels does exist. D





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IT Careers

Webmaster Though hiring managers need something to judge Internet

expertise, it isn't easy to know what Web certifications really

measure. Here are two views of their value and their shortcomings

Getting what you pay for

cause, without them, you never know what you're getting. If you know the certification program for user interface person certified be-Novell Inc or Microsoft Corp. engineers, then you know what a certified person will be able to do. It's true, as some critics of certifi-

cation say, that the job of webmaster isn't well-defined. But if you're the person who is hiring a webmaster, you should find out what each as fast as the products that work candidate's certification program off it. comprises. Once you understand a webmaster program's curriculum,

"Once you understand

a webmaster program's cur-

riculum, you'll be sure that

the people it certifies know

about ports, TCP/IP, subpet

masking and the various vul-

nerabilities in the network."

- Daniel Meeks

you'll be sure that the people it certifies know about submet masking and the various vulnerabilities in

the network It's no different from hiring someone with a computer science degree from a

university. If the the person who's hiring has to find people haven't had to learn. out what that university is like.

The certified webmaster I'm talking about is a technical person — a master engineer — who probaengineer, a systems administrator or a combination of all three. That's aspects of the shop and maybe

the only person you need to have certified. You don't need a World Wide Web marketer or graphical cause those positions involve more free-form work

Some say certification doesn't mean much because Web technology changes so fast, it's difficult for skilled people to keep up. But the Web infrastructure isn't changing

There is a base of infrastructure knowledge you need to know that is fairly low level and isn't changing or is changing much slower than things such as Web languages and ports. TCP/IP, Internet server technology When it comes to this technol-

ogy. Web certification represents a baseline knowledge of that infrastructure: You need to know TCP/IP IP addresses, stacks, domain name service security. ports and how a basic Internet serv-

That's the knowledge I find miss ing in most webmasters. That's bedegree is from Purdue, that's a cause if you buy Windows NT Servgood university. But if the degree is er, all those things are done for you. from somewhere less known, then Certification teaches the basic stuff If you are running a small infor-

mation systems shop, maybe you can't hire a person to do just the technical piece. But if you hire bly is a database administrator, an a certified, technically capable person, he can run the technical

mck up the other stuff. If you aren't a certified webmaster, it doesn't mean the door is closed But being certified makes it

a lot easier to get a job I don't think being a certified webmaster automatically gets you more money. If that were true, there still would be only an initial salary boost. Once you come into a thon, salanes are driven on performance not notential.

I also think certification is more important for new webmasters

than those already on the job. I don't think that in the near future you'll see existing webmasters go ing back to classes to get certified. The webmaster associations will

have to get together and agree on a certification program that fits everyone Unix hannened that way you had to run System Five or die. But Unix uniformity was businessdriven. Among webmasters, there is no urgency for uniformity. Mayhe there will be at some time in the distant future.



certifications: needs em?



Everybody does it different

At the Webmasters' Guild, we aren't anticertification. In fact, we're talking to people about endorsing their courses on a nonexclusive bass. But our members and executive committee believe that substantive issues surround

certification.

The first problem with certification is how to define a webmaster. Is it a technical person who handles a World Wide Web site, or is it someone who handles graphic design, marketing or business strategy for a Web site? The confusion about the definition of webmaster, plus the many

The condusion about the defination of webmaster, plus the many programs that have arisen throughout the country for webmaster certification, has created a massive program into the same as certification from another. When poetmial employers look at a webmaster certificate, it isn't clear to them what that certificate means.

Another problem of certification is that many programs don't even offer the option of a business background, and that is something that should be taught at a basic level in a basic certification program.

We believe a webmaster must possess knowledge of fields as diverse as network configuration, interface and graphic design, software development, business strategy, witting, marketing and project management. The function of a webmaster encompasses so many areas, the soition often is held by a areas, the soition often is held by a

team rather than one person.

As a result, we believe people can
do many different tasks and still be
identified as a webmaster. I find it
entirely conceivable that someone
could learn all those disciplines, but
it would take a lot of time and effort, and it san't something that
could be done in a single certifica-

tion program. Webmaster certification has come into being because of the unbelievable dearth of people in this field. It's the explosion of the Web— not the shortage of people with college, degrees — that's causing that dearth. Employers are histing like mad, and there aren't enough candidates, particularly on the West Cogst and in some places on the

Most of the certification programs we encounter are vendor neutral, because that's what most people seem to want. There's no telling which beowser will win or whose tools will be the most useful.

If a widely accepted certification program for webmasters is going to happen, the industry needs to look at webmasters as a set of professionals such as doctors or attorneys and create a set of national standards all organizations can agree to. If everybody can agree, we can set up something similar to a har exam.

But there are barners to national standards. This is an industry that historically has been highly unregulated; its members are Web people who are very much against regulation in any form.

Also, certification faces the practical problem that Web technology is exploding. By the time a person graduates with a computer science degree, the degree is obsolete. In webmaster certifica-

obsolete. In webmaster certification, the problem is even worse. No - Jayne Mason

"Certification from one pro-

gram isn't the same as certi-

fication from another. When

potential employers look at

a webmaster certificate, it

one can seem to keep pace with everything that's

So, webmaster certification standurds would be mice, but is arrores going to do it, and does anybody want it? I think webmaster certification is going to take one of two paths: The three or four professional Web organization out there will get together and say. "Here is what basic certification means, and here resistant agriculture of the professional expansions worth agree, and certification programs will continue without any studently.

A new industry is going through birthing pains. I'm not sure what's likely to happen. O

Alexander is a fredunce writer in Edina, Minn.

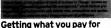
IT Careers

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pack up the other stuff. If you aren't a certified webmaster it doesn't mean the door is closed. But being certified makes it

a lot easter to get a job. I don't think being a certified webmaster automatically gets you more money If that were true, there still would be only an initial salary boost. Once you come into a shop, salanes are driven on performance, not potential

Lalso think certification as more important for new webmasters

than those already on the job. I don't think that in the near future you'll see existing webmasters goang back to classes to get certified. The webmaster associations will have to get together and agree on a certification program that fits every-

one. Unix happened that way you had to run System Five or die. But Unix uniformity was businessdriven. Amone webmasters, there is no urgency for uniformity. Mayhe there will be at some time in the distant future



certifications:



Everybody does it different

At the Webmasters' Guild, we aren't anticertification In fact. we're talking to people about endorsing their courses on a nonexclusive basis. But our members and executive committee believe that substantive issues surround

The first problem with certification is how to define a webmaster. Is it a technical person who handles a World Wide Web site, or is it someone who handles graphic de-

sign, marketing or business strategy for a Web site? The confusion about the defination of webmaster, plus the many programs that have ansen through

out the country for webmaster certification, has created a massive problem: Certification from one program isn't the same as certification from another. When potential employers look at a webmaster certificate, it isn't clear to there what that comficate means

Another problem of certification is that many programs don't even offer the option of a business background and that is something that should be taught at a basic level in a basic certification program.

We believe a webmoster must possess knowledge of fields as diverse as network configuration. interface and graphic design, software development, business stratego writing, marketing and project management The function of a webmaster encompasses so many areas, the position often is held by a team rather than one person

As a result, we believe neople can do many different tasks and still be identified as a webmaster, I find it entirely conceivable that someone could learn all those disciplines, but it would take a lot of time and effort, and it isn't something that could be done in a single certification program.

Webmaster certification has come into being because of the unbelievable dearth of people in this field. It's the explosion of the Web - not the shortage of people with college degrees - that's causing that dearth. Employers are hiring like mad, and there aren't enough candidates, particularly on the West

Coast and in some places on the East Coast Most of the certification programs we encounter are vendor neutral, because that's what most people seem to want. There's no telling which browser will win or whose tools will be the most

useful If a widely accepted certification ogram for webmasters is going to happen, the industry needs look at webmasters as a set of professionals such as doctors or attorness and create a set of national standards all organizations can agree to 1f everybody can agree we can set up something similar to a

But there are barriers to national standards. This is an industry that historically has been highly unregulated; its members are Web people who are very much against regula-

tion in any form. Also, certification faces the prac-"Certification from one protical problem that oram isn't the same as certi-Web technology is exploding. By the fication from another. When time a person gradpotential employers look at puter science dea webmaster certificate, it gree, the degree is

obsolete In webisn't clear to them what that master certificacertificate means." - Jayne Mason

tion, the problem is even worse. No one can seem to keep pace with everything that's

happening So webmaster certification standards would be nice, but is anyone point to do it, and does applieds want it? I think webmaster certification is going to take one of two paths: The three or four professional Web organizations out there will pet together and say. "Here is what basic certification means, and here is a national standard," or the pro-

fessional organizations won't agree. and certification programs will contimue without any standards A new industry is going through birthing pains. I'm not sure what's likely to happen. CI

Alexander is a freelance writer in Edino Mine

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Sound

From stalking Barnes & Noble to advertising on the Howard Stern show hiring managers are near panic in their search for IS talent

By Jili Vitiello

ou think Rocky had a tough time training for his first big fight? Fuhgeddaboutit! That was a piece of cake compared with how hard information systems hiring managers and human resources recruiters are battling to

fill IS jobs in Philadelphia and southern New Jersey.

They're buttonholing techie types in bookstores, running contests and offering cash to anyone who can lure qualified IS professionals to join their companies.

They may be a bit dazed by their nonstop recruiting and the beating they're taking in the market, but you've got to give them credit for going the distance. These IS managers and recruiters have heart.

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Philadelphia: Beemers and bucks

"we'ar nerwoaaing with everyone we know says Lori Desiderio, an SAP recruiter at Price Water house LLP in Philadelphia. "It's like that movie, Six Degrees of Separation. Eventually, you run into someone with the right skills who's interested in a job." Besides working with headhunters and placing advertisements in newspapers, magazines and on the

Internet, Price Waterhouse will retrain IS professionals in SAP. Sign-on bonuses are re "It's somewhat like baseball, although maybe the figures are not as high," Desiderio says.

The company also gives \$3,000 to any employee who refers a successful technical candidate. Emp res who recruit three or more IS professionals b their names entered in a drawing for a new BMW.

OK, sure — you'd expect a tough fight when recruiting SAP talent. But in Philadelphia and its suburbs. even Cobol programmers are demanding — and get-ting — six-figure starting salaries, says Ed Thomas, president of Professional Search Associates, Inc. in president of Protessional Search resource.

Malvern, Pa. Companies that can't offer such a rich purse are resorting to what Desiderio calls "creative

In a startling departure from previous years, ever emior-level IS jobs are going begging in Philadelphia. tramark Group, Inc. is searching for several vice presidents of MIS for its various lines of busi says Ken Nelson, senior vice president of MIS and chief information officer. He's hared a retained search firm to fill those positions and is using a continger firm to recruit midlevel IS professionals. (Retains firms are paid a fee for conducting a search; conti

New Jersey: Shock lock and sticker shock

ACROSS THE DELAWARE RIVER in southern New Jertions with techies browsing in sey, the situation is more severe. The region competes the IS section of the local with large corporations in Philadelphia and northern Barnes & Noble bookstore and New Jersey for scarce IS, human resources. Smaller to stick her business card in the companies in southern New Jersey sell IS recruits on IS books on the shelves.

namic environments in exciting industries. Bluestone Software, Inc., a software and cor company in Mt. Laurel, N.J., that has about 270 emyees, advertises IS openings on the cont Howard Stern radio program. "We looked at the de-mographics and realized the people we need to attract

don't read the newspaper, but they do listen to How-ard Stern," says Amy Naples, director of human reurces. Bluestone bagged five new hires using the tactic, she says, despite some initial reservations held by the "penny loafers

and polo shirt" set The commany has nded its Cool Cash employ-

ee referral program qualified IS candidate who is hired. Participants can rn \$1,000 for each new hire. Bluestone seeks programmers with Java, C and C++ experience

Naples also has been known to strike up conversa- Visiello is a freelence writer in East Brundwick, N.J.

gency firms are paid a commission if they find a suc-cessful candidate.)

and applying new technol

The casino industry rei apreme in Atlantic City. There, LS opportunities focus on converting legacy systems Caesar's is in the midst of a system conversion, and buman resources manager Eugen

Clark says he is having trouble locating professionals who are AS/400 experts. He recently brought in a recruiter who is establishing links to local schools. Down the boardwalk at the Claridae Casino Hotel, Art Lucchesi, vice president of MIS, recently filled two of three open IS positions throug the most conventional method — a newspaper ad.

"For some reason, technical people feel they must use headhunters to get jobs," Lucchesi says. He calls executive recruiters' a5% commissions outrageous and says he abhors their tendency to pirate people out of IS shops. "The casinos always have IS job openings, and programmers go from one to the other."

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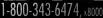
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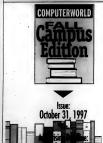


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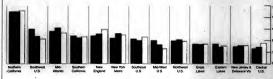
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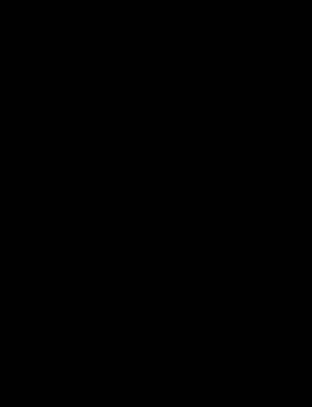
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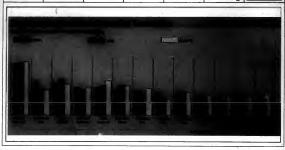
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Analysts say good customer service has lowered



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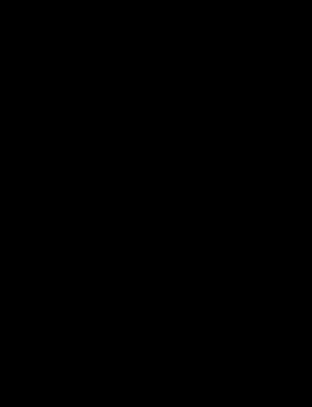
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Companies wake up to E-mail liabilities

Texaco's Betty

over comments made by em-ployees isn't new. "It's just new-ety for Industrial Security, the

er been done in such a produc- trade group that publishes Secu-

Several corporate giants, in-

cluding Citibank and Morgan Stanley & Co., have been sued for millions of dollars during the past year by workers over the contents of E-mail messages. Similarly, Andersen

Consulting is defending a \$100 millawsuit in which E-mail messages left on a client's computer by Andersen, consultants are expected to be key

things in E-mail ages that they would never say directly to another person," said Ken Bass, a partner in The Venable Law Firm in Washington. The fact

in the same light as written ible format." Bass said. Conv sations that are now recorded via E-mail messages used to take place on the telephone or at cocktail parties, be said. As a result, information sys tems depo

are scrambling to shore un E-mail policies as a defense against

costly litigation. Specifically, they are looking at purging E-mail files faster and becoming more aggressive about regularly reading employee

· A recent surve of 138 readers of Security Management magazine in-decated that only 47% of the respondents have an E-mail policy Of those, fewer



Part of the problem - and the reason there aren't many companies talking about how

they are dealing with the chang-ing role of E-mail — is that there aren't a lot of choices for them. Those efforts are hindered in part by the fact that although 15 can set guidelines for E-mail us-age, workers are in control when it comes to the contents of

There are technical answ in the form of monitoring soft-ware, but that's in its infancy. So at this point, companies are re-evaluating, consulting lawyers and scratchine their heads. But some are taking action.

Chris Whitman, a project leader at Ernst & Young LLP in New York, said his firm is devising a plan for deleting old "If a business docume such as an invoice, is attaches an E-mail mensage, that do ment should be moved to a docman, manager of messaging at Texaco, Inc. and chair of the Message Retention Workgroup. uments on a long-term beniel," she said.

ms), who came a seem to be getting a handle on the message retention insue, they are more perplead by imposing stricter guidelines on the use of E-mail or reconstoring E-mail.

"If you get too restrict out it, you are destroying the whole purpose of E-mail," said Roger Walters, vice president of 15 at Boot Allen & Hamilton, Inc. in Chicago. On the other hand, the speed and case of E-mail often spurs casual and reckless comments, he said.

When the Andersen case became public, Booz Allen used it as an opportunity to remind



kers that "E-mail is not as

Exchange 5.5 slated to solve scalability woes

than half make employees sign

By Barb Cole-Gomolski

USERS AT the Microsoft Corp. Exchange Conference later this month will bear more details about the soon-to-be-released upgrade of the messaging server and its planned integration with Windows NT s.o.

that companies are being sued

Microsoft officials said no formal product announcements are slated for the conference, to be held Sept. a8 to Oct. 1 in San

But the company is expected to announce that it is shipping a release candidate version of the Exchange upgrade - which sources said will be called Exchange 5.5 - the week before the conference. Microsoft has said the upgrade will ship by year's end

HIGHER LIMITS

Several users said they exp Exchange 5.5 to solve some key scalability problems that have

Taking center stage at Microsoft's Exchange show

Exchange 5.5 8 Integration with Windows NT 5.0

\$ improved internet hooks

dogged large sites. Specifically, it will lift the r6G-byte limit on message stores, allowing companies to run more users per server than the couple of hundred they can

We're waiting on the larger esage store and some over performance impro ments," said Bob Cavallaro, director of advanced technologies at American International Group, Inc. in New York, which is moving several thousand

Version 5.5 also is expected to support the Internet Message Access Protocol 4. which gives remote users more flexibility in the way they access internet mail. Also on tap for Version 5-5

is support for Lightweight Di-rectory Access Protocol standards, which let users look up and modify directory entries us ing a World Wide Web browser. Microsoft also is expected to give details on how E

will take advantage of Windows NT 5.0's Active Directory. That could be key to large sites, which have found it difficult to add and move Exchange users The integration with NT s.o.

will fix all that," said Jerry Condon, a systems integrator at IKON Technologies, Inc., a Version 5.5 beta site in Seattle. It will be much easier to set up Exchange networks after NT 5.0 shine Condon said []

beer is better than women." In the Morgan Stunley and Citibank cases, white managers are accused of circulating E-mail sages that poked fun at "Ebonics." Andersen may have otten into hot water with client UOP, a petrochemical comp in Des Plaines. III. by detailin in E-mail how it had lost key tai

tem that will automaticall

purge messages after a certain time period, be said.

Companies typically hold on

to messages anywhere from 90

days to a year. But because

E-mail must be turned over in

the event of a lawsuit, most site.

are looking to purge them as

suggest that period should be

Not purging old mail can b

painful consequences. For ex-

ample, some lawsuits have cen-

Chevron Corp. in 1995 paid

more than \$2 million to four fe

claim that they were harassed by

sexually explicit E-mail mes-sages, including, "35 reasons

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less than one year.

ent and would have trouble completing the engagement. But the problem with quickly zapping E-mail is that users' inmes have become storehouse techments, which may include correspondence, contracts and ntations, are increasingly

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Workgroup, which is about to

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mining how long companies

said it is best to separate E-mail

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Members of the con

private as you may think," Wal-Several sites said they would sent along with messages, said like to get more aggressive oger Mizumori, a principal at about monitoring E-mail, but they are reluctant to implement Washington. He is a member of policies that would be a nightthe Electronic Messaging Asse

Software, such as Vienna, Vabased SRA International's Asstor, may help companies that are looking for ways to keep tabs on E-mail. Assentor scans the contents of E-mail messages in search of certain "hot" words that can be defined by system mistrators. The software is being beta-tested at several large









Alignment? The news is better than you think

ater this year, CSC Index, the management con-sulting firm, will send out questionnaires for its widely respected annual survey of IT management issues.

The results taken from senios inform ion technology managers in North America will be sorted and tallied, then

reported early next year. But was don't have to wait would then to learn the most critical findings. Very likely, the No. 1 issue for IT managers next year will be aligning IT with the goals of the business. The only real question is

the margin of victors. How do I know? "Aligning IT and the business" was No. 1 in this year's CSC Index poll, as it was last year. And it was No. 1 the year before that. This year, it was a stronger No. 1 than ever before. The results seem to indicate that IT's goal of aligning itself with the business is as elusive as ever. That's extraordinary, given the tidal ways of attention and effort aimed squarely at solving this rn-day riddle.

But I think you're beating yourself up

pessarily. I think you're railing against a perception of misalignment not a reality Can that be? Have the billions spent on

consultants, seminars, realignments, reorganizations, re-engineering and reassessments all designed to unite IT and the business paid off? If so, why after a decade of these discombobulations does IS believe that

IT and husiness remain larnely un-There are three main rea

Failure to prove ROI. The brilliant Paul Strassmann opened a Pandora's Box so years ago with research that showed there isn't necessarily a relationship between spending a lot on IT and earnering

turn on investment for every IT dollar spent. The theory was, if you can prove ROI, you can certainly prove IT's value to the business and there-

by more closely ation Show me where ROI calculations are any bet-ter today than in the past. We don't have real agures. In fact, we may be further from proving ROI today than ever, given that the justification for financine

today's intranets is en, "We'll be better off if popole are That's ROI? No, and ROI isn't a good

Complexity has reimmersed CIOs in technology. For a while, C1Os decoupled es from many technology endeavors and majored instead in business. But the complexity of open systems and

pulled the top IT people back into their roles as chief technologists. It can be no other way, and that means less time to think business. You know, when you're

up to your arse in alligators . . . The IT/business alignment responsi-bility is dispersed today. You see, business and IT are far more closely align in ever before. It's just that sen and business pover achieved the CIO vision of 10 years ago. The responsibility for that is now dispersed among several groups and individuals: IT. CEOs, CFOs, user department beads and even discre

You haven't failed in this erest ender or. The underlying dynamics, mainly the universal acceptance and use of IT throughout the enterprise, changed the game. Look at the profitability and health of U.S. business today. You can only conclude that you and the other IT-business alignment specialists have done your job

Laberis was editor in chief at Computer-world from 1986 to 1996. He is position of Bill Laberis Anociates, a consulting and

All business is local

David Moschella

ou hear it all the time. The Internet makes dis- providers and Web site providers domitance irrelevant; it doesn't recognize national borders; it is the manifestation of the global village that Marshall McCluhan forecast.

There is an amazing number of extremists - especially at Wired magazine - who needict the transformation of politics and even the loss of national sovereignty and cultural independence. hough the Internet is fundamental

ly oblivious to physical distance and human-imposed geography, so is the teleone system. The idea that either will lead to a borderless world eventually will be proven much more wrong than right. A decade hence, history will show that the internet era resulted in a far more local and multinational IT industry. Ironically, it will be the PC era that will be viewed as the high-water mark of a purely global technology business.

Consider how homogeneous the PC era really was. The same components microprocessors, operating systems, disk drives and so on - were used from Rome to Tokyo to Romos Aires. Whether used in stand-alone or networked mode.

the applications were virtually identical. It was this very homogeneity that made it possible for U.S. suppliers to be so successful around the world

Now consider the network era. National infrastructures will yarr substantially in both capacity and technology

They will consist of various mixes of copper, cable, optical fiber, satellites and cel-Jular technology. And they'll be managed through diverse market and regulatory

Additionally, the applications of the net already are far more diverse than those in the PC era, and that will contin-ue. Each nation will have its own cast of leading IT vendors, with country telcommunications companies. Internet service

noting most service delivery. Today's U.S. leaders increasingly will have to share our industry's wealth Many of the underlying Internet hardware and software products still will be

sold globally. But those products will become subordinate to network content and services that will define what the Internet is to most businesses and mers. From a value-chain perspective, network services comprise a powerful new ostly locally defined

of hardware and soft ware technology The Internet era represents the convergence of the computer, telecommunica tions and content/media industries. Despite a number of important global players, the latter two businesses are, in

- layer that sits on top

sharp contrast to today's computer busi ness, overwhelmingly owned and manred by in-country organizations.

The use of the Internet more and more will be grounded in what people actually want to do. And most people have more

to say to their local friends, family, school and workplace than they do to anyo halfway around the globe. Even today, only about 10% of phone revenues are international. Because this figure is due more to weak demand than high costs. the percentage is rising slowly as prices fall rapidly.

Between those top-down and both up perspectives lie today's practical realities. Some governments will make extensive use of the 'net and some won't. The same is true for schools, commun families and, of course, industries. Those wide differences in use will be determined and driven, as much as anything. by national and local laws, customs, stes, cultures and languages.

The 'net could eliminate' horders.

countries, states and so on if that's what people and nations really wanted. But dence suggests they don't. Forme U.S. Speaker of the House Tip O'Neill liked to say "All politics is local." When people look back at the impact of the 'net, they will say the same about the Web. Cl.

Merchella is an author, independent consul tant and weekly columnist for Computerworld. His Internet address is david. meschelle@cu.com

The Back Page



CITIZEN'S VIRTUAL BANK TELLER

omers of Citizens Bank in Evansvilla, Ind., can already

uck the future of banking with a teller machine that does

more than dispense cask. The Touck Taller block from North unications in Marina del Ray, Calif., lets customers

apply for a home, auto or parsonal loan, open an account and

print loan applications on a laser printer. Customers also can speak to a live teller via videoconferencing. Twanty-five

accounts were opened at the klesk on its first full day of operation.

Patent watch

Recently risued I/ 5 motorto (number, inventor/assignee, date)

nline presentation of weather reports. Local weather forecasters feed eudio/visual reports into a computerized "presentation generator" that formats the Internet présentation. 12 65 a 886 WS1 Crem Billerica, Mass., Aug. 5)

mtélligent screen cursor. The cursor has small scons that provide dynamic feed. back to a user ebout what

mouse clack or draw operations. can be performed based on where the cursor is on the screen. (5.655.093. Borland International Scotts Valley Calif., Aug.5)

and diagnostic system" that determines whether a car's air bag can be safely deployed. If sensors indicate that the occupant is too close to the eir bay, and thus could be injured by the air bag, deployment is prevented, (5,654,462, Automotive Technologies Interna . . monal Boomton N Li

several balls into e net. The swings are

videotaped from two directions. The sys

tem analyzes factors such as weight shift

and hin/shoulder rotation to show where

the gelfer's swing differs from that of top surplessionals such as Trger Woods.

Swing like a Tiger

Web pages that crinkle from use

Researchers at Bell Labs have developed a Web page that turns yellow and crinkles in front of your eyes - just as an old piece of loose-leaf paper would after being handled by thousands of humans, Algorithms automatically "age" the Web page based on the amount of traffic it endures (see www. multimedia hell-labs com/metanhorium).

"Web pages are touched by thousands of people each day, and there must be a way to convey the age of the page itself." says Doree Seligmann, co-developer of the virtual paper. The Web desperately needs "signs of life and interaction in order to become more engaging," the researcher says.

Inside Lines

A Web site with taste

We were disappointed with the way hausfrau extraordinaire Marths Stewart built her Marthe Stewert Living World Wide Web site, sched used to debut today at www.marshastewert.com. Rather than build-ing it with some aluminum foll, pina cones, brightly colored bits of string end other things you'd commonly find lying sround the house she took the easy way out and used computers and software.

Curses, foiled again

Has there been a sale on extra-strength Reynolds Wrap in the Red-mond, Wash., area? Let's hope Microsoft had a practical reason for wrapping the invitation to its Sept. 30 Internet Explorer launch in a piece of aluminum foil embossed with the product logo and the phrase. "The Web the way you want it." Went it in shirm foil?

This is Redmond, calling Base Camp

Microsoft is set to announce within a month a new technology that will enhance and simplify remote access in products such as Windows NT Server, sources close to the company said. Code-named Base Camp, the software will be incorporated into Microsoft's Re. mote Access Service to make it easier to telecommute by simplifying the process of accessing the corporate server via the Int

Not the same as it ever was

Sybuse's parallel database appears to be on the way to the software graveyard, at least as a product in its own right. Company officials said the Sybase MPP software remains an "orderable product," But ongoing parallel development is aimed at coming up with e so-called multinode option to Sybase's mainstream Adaptive Server Entershoes afficials said. Lips were sealed as to when that will be

I shot the SHFRIFF

MCI Communications and British Telecom, soon to merge as Con-cert, will attack the problem of fraud in international toil calls with a program dubbed SHERIFF. It uses artificial intelligence to detect data patterns and predict where fraud may occur. SHERIFF also takes the use of acronyms to a new level; it stands for Statistical Heu-ristic Engine to Reliably and Intelligently Fight Fraud.

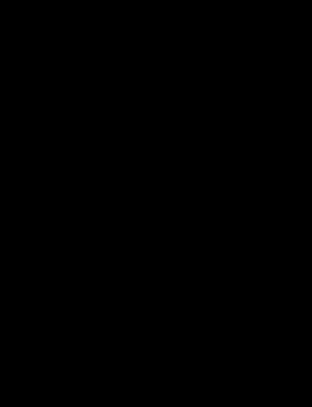
Swamp thing

Disease and postilence are hounting major application dors. SAP AG had to deal with a mesquite-borne er lence are haunting major application p break last week at its user group conference in Orlando, Fla. Now it's Propision's torm. The Pleasanton, Calif. Jeased windor will lick off its user group conference this week in Orlando with few mosquite spray for all. Propision sent warning letters to attendess last week. telling them they should wear long-sleeve shirts and punts, stay in doors end use the spray that will be provided. Users of Oracle soft ware will need to gear up next week when its user group throws its bi annual conference in Orlando. Message to application vendons: Ge

Roma Candle

Candle Corp. is readying a middleware development tool, cod named Roma, that will be users program one way for all their different middleware products. Buts testing will begin later this year, with thipment next year. Although middleware masks data com-tions complexity between different applications and plu-users still need to write to the different APIs for each produ-

A ortner Group continues to do its part to promote the use of puffy euphemisms. Vendors taking part in Gartner's CPP '97 parallel processing conference in Chicago this week won't push their wares on user attendees in anything so prospic as booths. Instead, their exhibition spaces are called "consultation areas." We wouldn't want people to think anything as gouche as setting was going on there, would we? If you want to consult with news editor Patricia Keefe, get in touch at (508) 820-8183 or E-mail heroteotrico Arefe@cw.com



The Back Page

CITIZEN'S VIRTUAL BANK TELLER

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